KAHN SYSTEM ILLUSTRATED

SELECTED ILLUSTRATIONS

TYPICAL OF OVER

10,000 IMPORTANT STRUCTURES

BUILT

KAHN SYSTEM
REINFORCED CONCRETE

MAXIMUM STRENGTH
FIREPROOFNESS — PERMANENCE — ECONOMY
EFFICIENCY AND BEAUTY

1913

THE TRUSSED CONCRETE STEEL CO., LTD.
CAXTON HOUSE, WESTMINSTER

Works:
TRAFFORD PARK, MANCHESTER

Branch Offices:
LEEDS, LIVERPOOL, CARDIFF, GLASGOW

TRUSSED CONCRETE BUILDING, DETROIT, MICH.

FOREWORD

WE present this publication in the belief that the best arguments that can be submitted in favour of our system are the many finished structures wherein it has been used. We are able to illustrate only a few examples, but they are characteristic of thousands of constructions carried out on the Kahn System throughout the civilized world. We would call attention to the fact that whilst our system has been largely used in the best and most expensive class of structures, the basis of its efficiency and economy gives it a wide range of application in comparatively small and cheap constructions; thus enabling it to meet all requirements, both large and small, complex or simple.

EFFECT OF FIRE ON A KAHN SYSTEM FLOOR

WOODHEATH, CHISLEHURST

The roof of this building, which was constructed in the ordinary way, was entirely destroyed and collapsed, falling on to a Kahn System floor underneath, which successfully sustained the shock of the falling roof and effectually stopped the progress of the fire. The second illustration shows the debris on the Kahn System floor. The illustration at the bottom shows the underside of this Kahn System floor, and it will be seen therefrom how little damage was done to the rooms beneath, either by fire or by the water. The building would have been entirely demolished had it not been for the Kahn System.

WHAT IS REINFORCED CONCRETE?

Reinforced Concrete is a form of construction wherein two materials, namely, concrete and steel, are used in such a way as to secure the most effective advantage of each. Concrete, being like stone, is a good material to resist compressive or crushing stresses. Steel is a material which satisfactorily resists tensile stresses. Nearly every form of construction is subjected to these two kinds of stresses, and by combining steel rods with concrete, embedding the former in the latter in a proper position, the most efficient method of construction is secured at the minimum of cost. A reinforced concrete structure will not be as cheap in its initial cost as a timber one, but, on the other hand, it will prove far more durable and will be found more economical than a structure of any other fire-resisting material, such as brick, stone, or steel.

The subject of reinforced concrete is not new, nor is it in its experimental stage. It has been scientifically dealt with by all the various engineering institutions, and has been largely adopted by the Admiralty, the Home Office, the War Office, and other Public Authorities. At the present time the new Naval Base at Rosyth is involving a considerable amount of reinforced concrete work, the Kahn System being used throughout. Some idea of the extent of the work can be gained from the fact that the contract sum for this Naval Base is something like three million pounds sterling; and the employment of reinforced concrete in a construction of such magnitude should lead to absolute confidence in adopting it for other structures of less importance.

Owing to its nature, reinforced concrete offers many advantages over other building materials. It is fireproof, it is rust-proof, it is rot-proof, and its strength continually increases with age. The cost of maintenance of a reinforced concrete structure is practically nil. For these reasons especially this method of construction has become extremely popular during recent years. As an instance of its popularity, it may be stated that during the past year three hundred and twenty structures were built in England on the Kahn System of Reinforced Concrete.

FIRE-RESISTING QUALITIES OF REINFORCED CONCRETE

As previously stated, there are many arguments in favour of the use of reinforced concrete in building construction, but probably the one most generally applicable is that its fireproof qualities are greater than those of practically any other building material.

A Kahn System structure is best defined by the word "monolithic," i.e., like a single stone. It possesses the continuity and cohesion of a unit mass, being not only fireproof, but also indestructible under the disintegrating influences of fire and water combined. The Kahn System of reinforcing steel properly embedded in the concrete strengthens the entire mass of the construction and prevents the incipient cracks that are likely to occur in a building not so reinforced—cracks which are caused by the application of streams of cold water when the structure is at a high temperature.

Evidence of the fire-resisting qualities of concrete properly reinforced is afforded by the various buildings which have from time to time been visited by fire. It can be said with truth that up to the present time no reinforced concrete building has been destroyed in a conflagration. Usually the fire is confined to the floor or compartment in which it originates, and only the contents of that floor or compartment are destroyed.

The Trussed Concrete Steel Company, Ltd., can refer those interested to examples of this kind in various places. Space here does not permit any enumeration of them, but typical instances are the Dayton Motor Car Co.'s building and "Woodheath," Chislehurst, illustrated on the opposite page. In the latter case it will be seen that the roof of the building, which was not constructed of fireproof material, was entirely destroyed, and the fire continued until it reached a Kahn System reinforced concrete floor, at which level it was stopped. The rooms under this floor were in no way damaged by the fire.

WHAT IS THE KAHN SYSTEM?

The Kahn System is one wherein various types of reinforcement for concrete are employed. The Kahn Trussed Bar is used wherever shear stresses are an important factor in the design; the Kahn Rib Bar where it is beneficial as a mechanical bond reinforcement; Hy-Rib where self-centering reinforcement can eliminate the expense of false work; and spiral hooping for members subject to severe compressive stresses. The Kahn System is not restricted to the use of any one form of reinforcement. On the contrary, it calls for that type in the respective portions of the structure which will prove best adapted to the particular work it is called upon to perform.

The mere use of these forms of reinforcing bars, however, does not constitute all that is meant by the Kahn System. Of even greater value than the advantages obtained by the above-named reinforcements is the service we render our clients. We make a special endeavour to be of assistance to the architect, the engineer, the contractor, and the owner. We place at the disposal of the architect and the engineer the services of our Engineering Department, which consists of a large staff of highly technically trained specialist designers. By reason of the wide experience and the different qualifications of the men on a staff as large as ours (at the date of writing—November, 1913—we employ forty-eight designers, engineers, and draughtsmen), we are able to give expert advice on the many problems which arise in the design of reinforced concrete work. With this extensive staff we are able to prepare detailed working drawings of reinforced concrete constructions in a prompt and efficient manner. We have inspectors who occasionally visit the work and report thereon to the architect and the engineer. For a reasonable fee we give the services of a resident engineer to thoroughly supervise the construction. We are always prepared to offer assistance and practical advice to the contractor, helping him to make his contract a remunerative one, and in return for this service we expect him to give the best quality of workmanship and materials, thereby proving of service to and gaining the goodwill of the owner. In short, we are proud of the fact that of even greater value than the advantages of the Kahn System itself is the organisation at the back of the Kahn System.

The Kahn System of reinforced concrete is at once a highly scientific and practical combination of steel and concrete, ensuring exact and economical results. It is the simplest in application, and adequately provides for every condition met with in reinforced concrete work. Further, it is based on the most up-to-date practice, and implies a guarantee of safety and economy not to be obtained by other modes of construction.

The Company exact no royalties and appoint no licensees, so that architects and engineers who specify the use of the Kahn System can rest assured that whilst the basis of the Kahn design is conservative and safe, healthy competition in the carrying out of the work is possible.

The Trussed Concrete Steel Company, Ltd., will always guarantee the strength of their designs where their reinforcement is used, and in such cases very clear working drawings are prepared free of charge showing the exact position of every piece of reinforcing steel.

The Company prepare designs and quantities relating to the concrete and centering, and give estimates for the amount of reinforcing steel involved. These may be embodied in the general quantities and put out to public tender, or the Company will obtain tenders if so desired.

THE KAHN SYSTEM AND THE ARCHITECT

From an architectural point of view the Kahn System has been standardized and systematized to such an extent that any of the usual æsthetic requirements can be dealt with in precisely the same manner as with other structural materials. Should the architectural requirements be such that exposed concrete is not desired, it may be faced with brick, terra-cotta, stone or any other facing material, the reinforced concrete in such cases merely providing a skeleton for the structure, consisting of floors, girders, columns, partitions, walls, etc. On the other hand, should the case be one where facing materials are not wanted, concrete, being plastic, can be readily moulded into any desired shape. The architect can thus employ the system with absolute freedom.

THE KAHN SYSTEM AND THE CONTRACTOR

As regards the contractor, the ease and rapidity with which a Kahn System reinforcement can be handled is, in itself, one of the main arguments in its favour. Kahn materials are supplied in the most convenient forms for handling. The Company has always large stocks of material at its works, Trafford Park, Manchester, and can give prompt delivery. As the reinforcement arrives on the job cut to length to fit definite positions, the danger of mistakes is largely eliminated and the risk of accidents considerably reduced. Owing to the fact that so much work is done on the reinforcement before it leaves our Works, the contractor is saved a considerable amount in the cost of his labour. Moreover, as the price of our reinforcement includes the preparation of detailed working drawings, and as there are no further royalty fees to be paid, the Kahn System generally proves the most advantageous one to adopt. The contractor, therefore, can erect his structure more economically by employing the Kahn System than under any other conditions.

The contractor is especially invited to take advantage of the services we render in the way of giving practical advice. Our representatives throughout the country are experienced men, and have instructions to place themselves at the disposal of any contractor who is using our system.

THE KAHN SYSTEM ENGINEERING DEPARTMENT

The Trussed Concrete Steel Company, Ltd., believe that a well-organised and thoroughly competent Engineering Department is a necessity, and of real value to the architect and engineer. Thousands of structures have been erected under the direction of the Company's Engineering Department. The experience thus acquired has resulted in the highest engineering efficiency in the special problems of reinforced concrete work. Complete designs and estimates are furnished upon request. If required, the Company can generally recommend competent clerks of works to inspect the constructional work, and competent foremen to assist the contractor in carrying it out.

ADVANTAGES OF THE KAHN SYSTEM

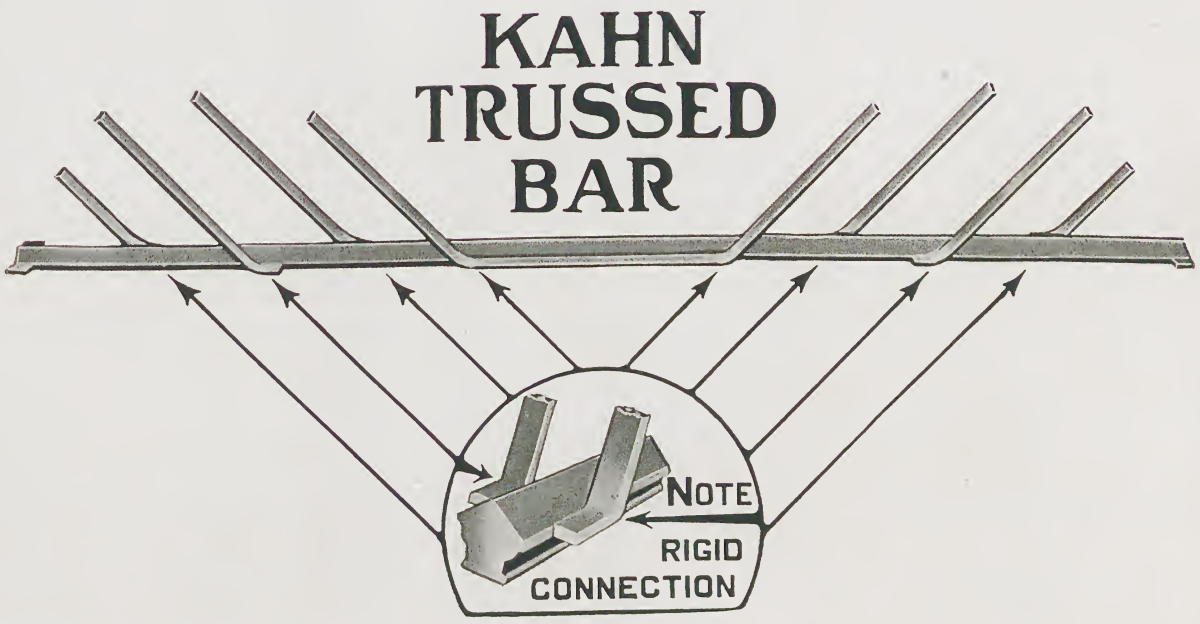
The Kahn System has numerous advantages that will appeal to every person interested in the erection of buildings, be he owner, architect, engineer, or contractor. Every owner of a Kahn System building enjoys the feeling of absolute security, knowing that his structure possesses the following characteristic qualities:—

1. It is absolutely fire-resisting.
2. It can be economically and rapidly constructed.
3. It is thoroughly rigid, possessing high resistance to vibration.
4. Its strength increases with age.
5. It requires a minimum expenditure for maintenance.
6. It assures the lowest possible fire insurance rates.
7. It gives security against dislocation of business caused by fire (which in many cases, means more than the loss by fire itself).

KAHN SYSTEM PRODUCTS

THE KAHN TRUSSED BAR

The Kahn Trussed Bar is primarily a reinforcement for beams, girders and heavy slabs, where special provision must be made to provide for internal stresses other than direct tension, or in places where stresses are more or less of an indeterminate nature. The prongs or diagonal tensional members may be regarded as extra reinforcement, thus providing not only for the horizontal stresses due to the bending tendencies, but also the vertical or shearing stresses caused by the direct weight of the applied load. It will be seen, therefore, that the Kahn Trussed Bar is designed to provide as a single unit for all the stresses which the steel portion of the structure is calculated to resist.



The fundamental principles of good reinforced concrete are—

(1) The concrete should be reinforced in the vertical as well as in the horizontal plane.

(2) The shear reinforcement should be inclined to the vertical preferably at an angle of forty-five degrees.

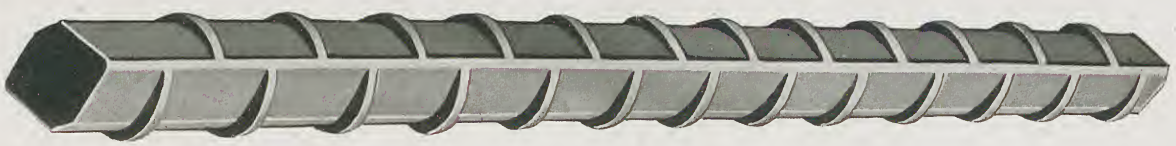
(3) The reinforcing metal should be distributed throughout the members in proportion to the strains existing at any place.

(4) The shear members should be rigidly attached to the horizontal reinforcement.

The Kahn Trussed Bar fulfils all these requirements, and it will be quite apparent to anyone familiar with the science of materials that, with its rigidly connected shear members, the bar possesses a continuity which cannot be secured in any other manner.

THE KAHN RIB BAR

The Kahn Rib Bar has been designed to meet the requirements of engineers who demand a mechanical bond for reinforcement. An efficient bond between the steel reinforcement and the concrete is in many instances of considerable importance. The Kahn Rib Bar is not a distorted or deformed bar—that is to say, the metal which comes in direct tension has not been distorted from a straight line in the process of rolling. Therefore, the Kahn Rib Bar is of stronger and more uniform section than any other. Deformed bars of every kind waste a certain amount of metal in

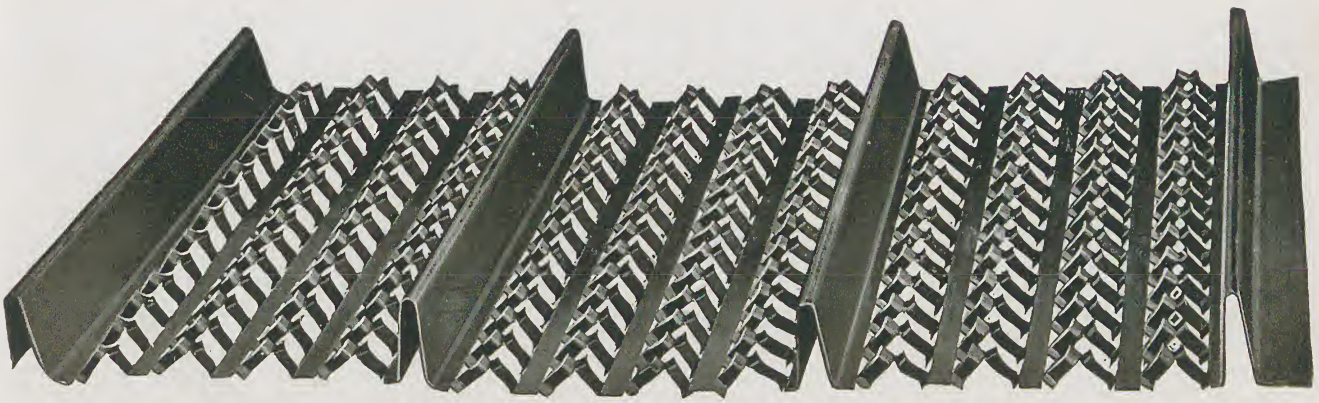


obtaining a mechanical bonding agent, and it is of importance that this amount of waste metal should be reduced to the minimum. With the Kahn Rib Bar the waste metal used for obtaining the bonding agency is less than two per cent. of the area of the reinforcement, which is practically a negligible amount. The Kahn Rib Bar provides transverse ribs at intervals along the entire length of the reinforcement, and these obviate the necessity for hooking or fishtailing the ends of the bars.

The Kahn Rib Bar is rolled in sections varying from $\frac{3}{8}$ in. to $1\frac{1}{4}$ in. square, rising by $\frac{1}{8}$ in., and in lengths of from sixty to seventy feet. The material used is the best grade of medium open hearth steel, and complies with the requirements of the British Standard Specification and the Recommendations of the Royal Institute of British Architects.

HY-RIB

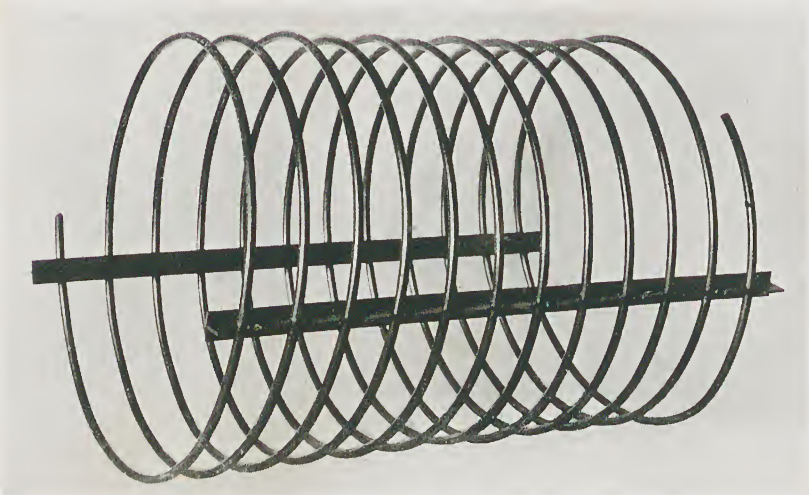
Hy-Rib is a self-supporting reinforcement, which does away with the necessity for centering. When used as a reinforcement, it combines the centering forms with the reinforcement in a scientific and practical manner, as a result of which an economical construction is obtained. Its use, however,



is not limited to floor slabs and walls, as it is an excellent material for suspended ceilings and internal partitions. It is a form of expanded metal wherein each rib is rolled to give it the necessary stiffness. When used in the construction of suspended ceilings, or internal partitions, no furring or strutting is necessary. Our Hy-Rib booklet, dealing particularly with this valuable product, will be forwarded on application.

KAHN SPIRAL COILS FOR COLUMN REINFORCEMENT

Under the terms of an agreement with the patentees of hooped concrete for compression members, The Trussed Concrete Steel Company, Ltd., is permitted to manufacture and sell for use in the construction of reinforced concrete buildings spirally-coiled reinforcement for columns, or other members subjected to compression, and when the work is designed by the Company, and the spiral coils purchased from them, there is no further royalty to be paid by the purchaser.



It is a well-known fact that all members subjected to severe compressive stresses have a tendency to burst under a heavy load. Spirally-coiled reinforcement eliminates this form of failure. Hooped or spirally reinforced columns are from two to three times as strong as other columns with the ordinary form of reinforcement, consisting of plain rods and binders. As supplied by The Trussed Concrete Steel Company, Ltd., the reinforcing rods are mechanically coiled to the true diameter in which they are to be used. The extra amount charged for coiling by the Company is very reasonable, and is probably less than half what it would cost the contractor to coil the rods himself on the site.

KAHN SYSTEM

SCOTTISH UNION & NATIONAL INSURANCE COMPANY'S BUILDING
LEEDS
Messrs. PERKINS & BULMER, FF.R.I.B.A., Architects

TRUSSED CONCRETE STEEL COMPANY LTD
CAXTON HOUSE WESTMINSTER

KAHN SYSTEM

LIBRARY, NEW WESLEYAN HALL
WESTMINSTER

CANTILEVER GALLERIES TO LARGE HALL, NEW WESLEYAN HALL
WESTMINSTER

TRUSSED CONCRETE STEEL COMPANY LTD
CAXTON HOUSE WESTMINSTER

KAHN SYSTEM

NEW WESLEYAN HALL,
WESTMINSTER
Messrs. LANCHESTER & RICKARDS, FF.R.I.B.A., Architects

TRUSSED CONCRETE STEEL COMPANY LTD
CAXTON HOUSE WESTMINSTER

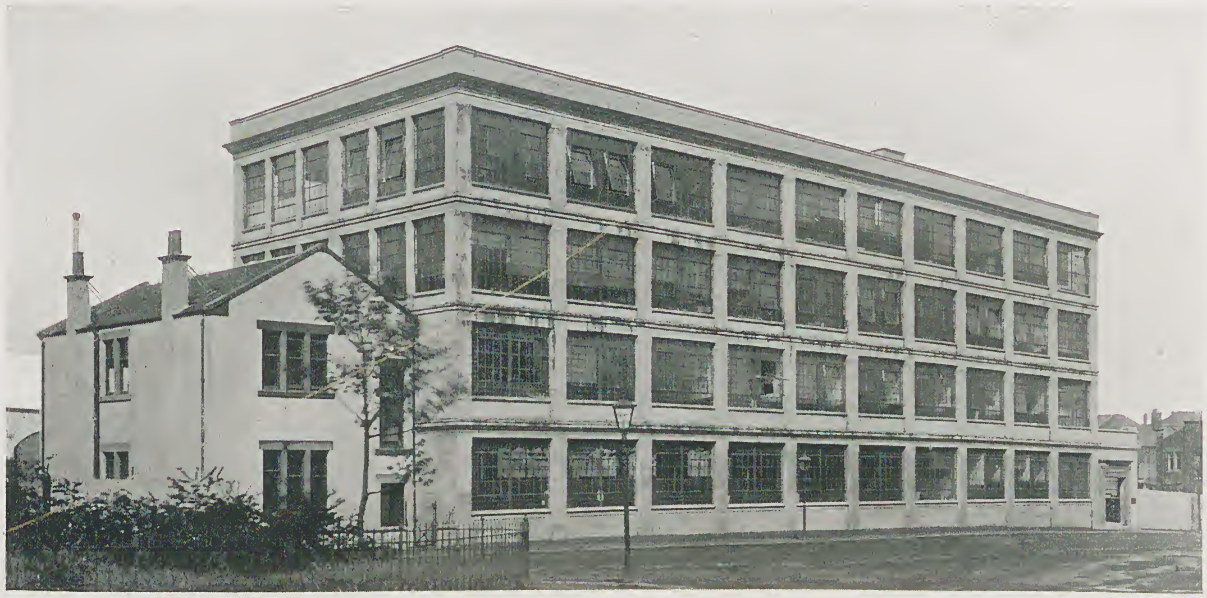
KAHN SYSTEM

GENERAL OFFICES FOR MESSRS. G. & J. WEIR, LTD.
CATHCART, GLASGOW

NOTE AMOUNT OF DAYLIGHT OBTAINED IN A KAHN SYSTEM BUILDING.

TRUSSED CONCRETE STEEL COMPANY LTD
CAXTON HOUSE WESTMINSTER

KAHN SYSTEM



ADMINISTRATION BLOCK FOR MESSRS. G. & J. WEIR, LTD.
CATHCART, GLASGOW

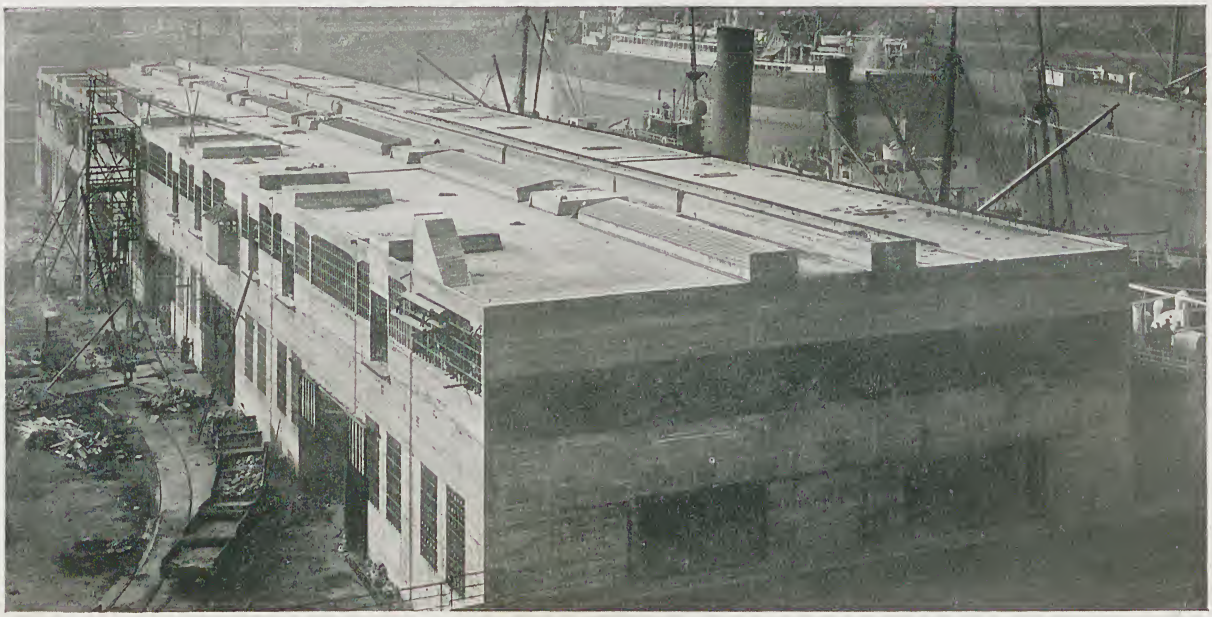
NEW MOTOR WORKS FOR MESSRS. ARROL JOHNSTON LTD.
DUMFRIES

T. C. PULLINGER, Esq., Architect

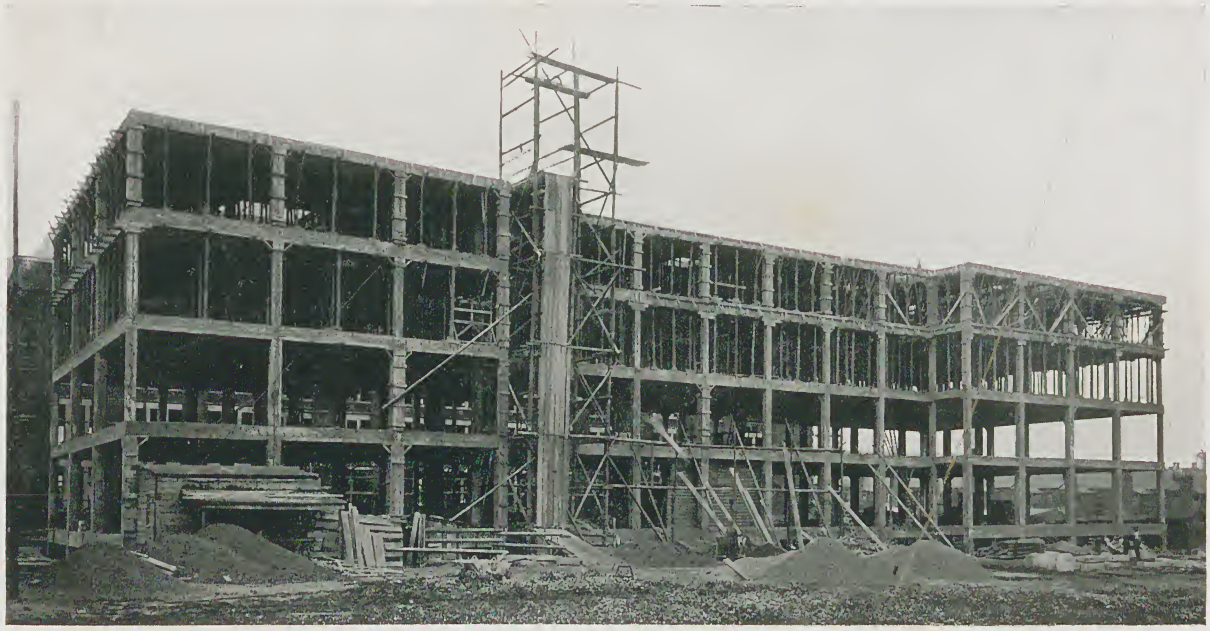
Messrs. KERR & WATSON, Associate Architects

TRUSSED CONCRETE STEEL COMPANY LTD
CAXTON HOUSE WESTMINSTER

KAHN SYSTEM



BROCKLEBANK DOCK SHED FOR THE MERSEY DOCK AND HARBOUR BOARD
ANTHONY G. LYSTER, M.Inst.C.E., Engineer



NEW TELEGRAPH STORES IN COURSE OF ERECTION AT BIRMINGHAM
FOR H.M. OFFICE OF WORKS
JOHN RUTHERFORD, Esq., Architect

TRUSSED CONCRETE STEEL COMPANY LTD
CAXTON HOUSE WESTMINSTER

KAHN SYSTEM

EXTENSION TO WORKS OF MESSRS. THE GRAMOPHONE COMPANY, LTD.
HAYES
ARTHUR BLOMFIELD, Esq., M.A., F.R.I.B.A., Architect

TRUSSED CONCRETE STEEL COMPANY LTD
CAXTON HOUSE WESTMINSTER

KAHN SYSTEM

THE VILLA MARINA KURSAAL, I.O.M.
Messrs. Percy Robinson & W. Alban Jones, Architects

THE DOME OF THE MELBOURNE PUBLIC LIBRARY
Messrs. Bates, Peebles & Smart, Architects

The above structures illustrate two of the three largest reinforced concrete domes in the British Empire. All three were constructed on the Kahn System

TRUSSED CONCRETE STEEL COMPANY Ltd
CAXTON HOUSE WESTMINSTER

KAHN SYSTEM

THE VILLA MARINA KURSAAL: INTERIOR

Messrs. PERCY ROBINSON & W. ALBAN JONES, Architects

TRUSSED CONCRETE STEEL COMPANY LTD

CAXTON HOUSE WESTMINSTER

KAHN SYSTEM

BOURNEMOUTH MUNICIPAL ART SCHOOL

F. W. Lacey, Esq., M.Inst., C.E., Architect

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KAHN SYSTEM

THE BONNINGTON HOTEL
SOUTHAMPTON ROW, W.C.

W. E HAZELL, Esq., F.R.I.B.A., Architect

TRUSSED CONCRETE STEEL COMPANY LTD
CAXTON HOUSE WESTMINSTER

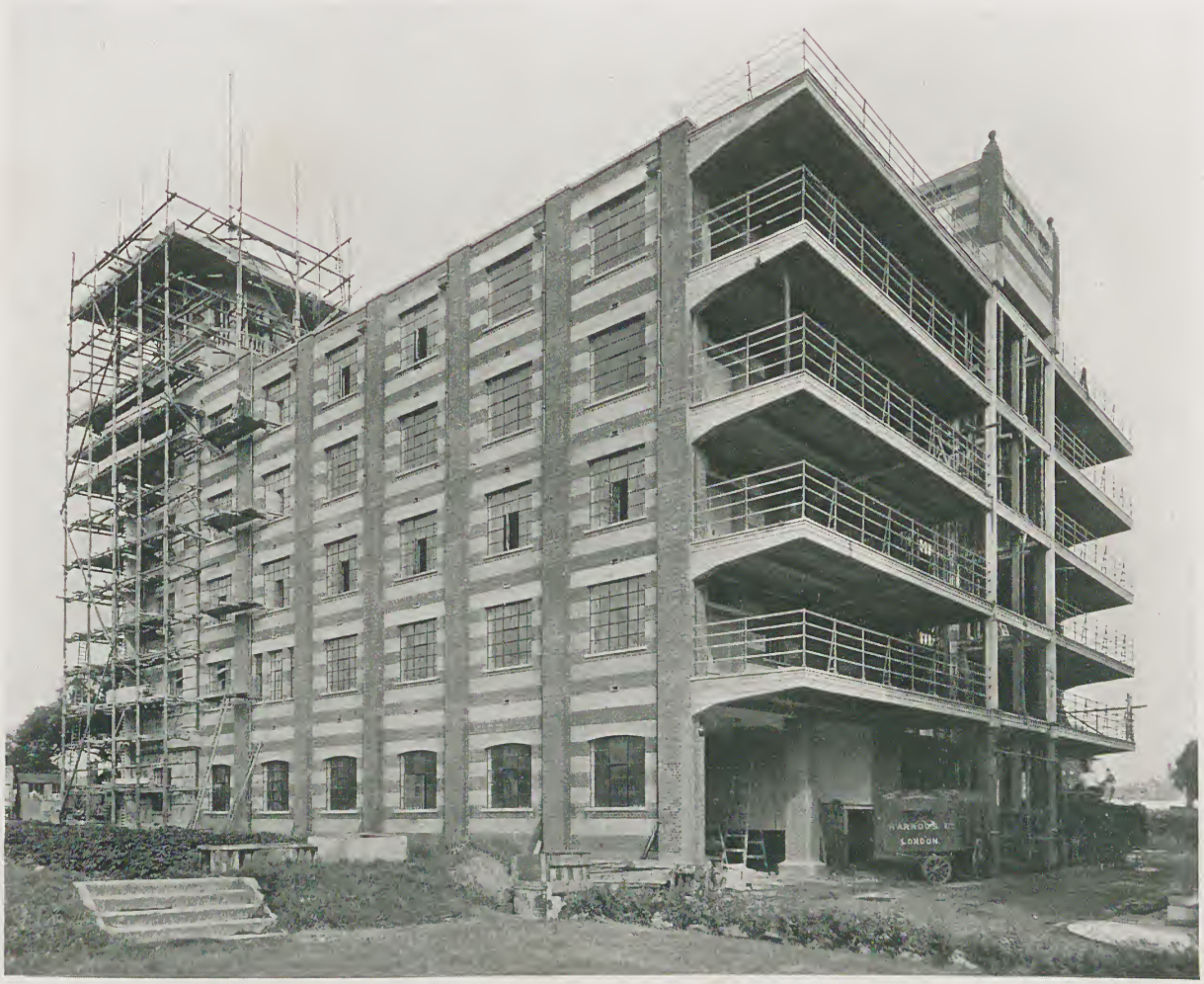
KAHN SYSTEM

INTERIOR VIEW FURNITURE DEPOSITORY FOR MESSRS. HARRODS LTD.
BARNES

W. G. HUNT, Esq., F.R.I.B.A., Architect

TRUSSED CONCRETE STEEL COMPANY LTD
CAXTON HOUSE WESTMINSTER

KAHN SYSTEM



FURNITURE DEPOSITORY FOR MESSRS. HARRODS LTD. : EXTERIOR

W. G. HUNT, Esq., F.R.I.B.A., Architect

TRUSSED CONCRETE STEEL COMPANY LTD

CAXTON HOUSE WESTMINSTER

KAHN SYSTEM

WORKSHOPS AND OFFICES FOR MESSRS. SIEMENS BROS. & CO., WOOLWICH
Messrs. HERBERT & HELLAND, Architects

INTERIOR VIEW OF THE ABOVE

TRUSSED CONCRETE STEEL COMPANY LTD
CAXTON HOUSE WESTMINSTER

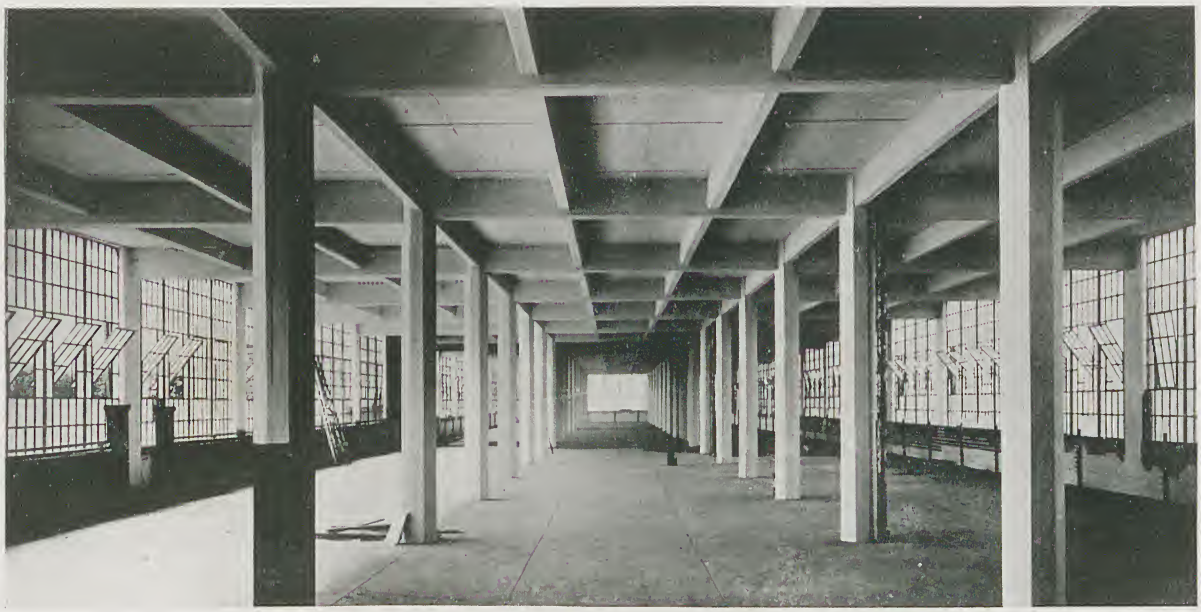
KAHN SYSTEM

THE PAVILION AND CAFÉ, TORQUAY
H. A. Garrett, Esq., A.M.I.C.E., Architect

CINEMA THEATRE AND RESTAURANT
At Blackpool
R. B. Mather, Esq., Architect

TRUSSED CONCRETE STEEL COMPANY LTD
CAXTON HOUSE WESTMINSTER

KAHN SYSTEM



INTERIOR VIEW OF FORD MOTOR CAR CO. BUILDING

INTERIOR VIEW OF CONTINENTAL MOTOR CAR CO. BUILDING

TRUSSED CONCRETE STEEL COMPANY LTD

CAXTON HOUSE WESTMINSTER

KAHN SYSTEM

FACTORY BUILDING, INTERIOR, STANDARD FURNITURE CO.
HERKIMER

TRUSSED CONCRETE STEEL COMPANY LTD
CAXTON HOUSE WESTMINSTER

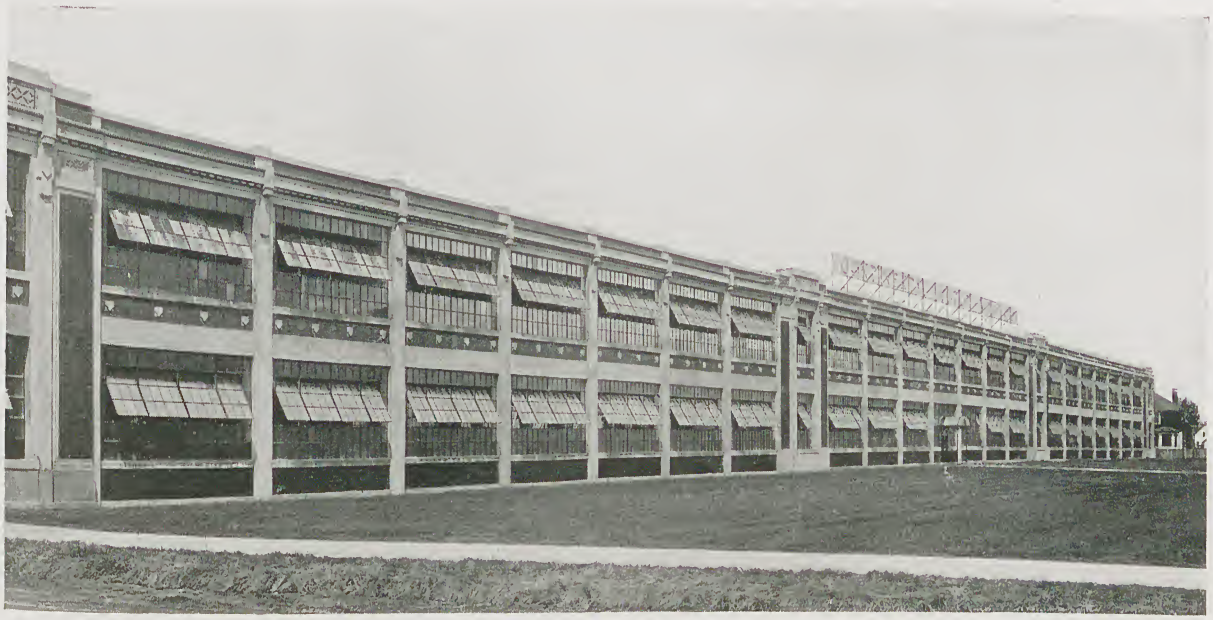
KAHN SYSTEM

FACTORY BUILDING FOR THE CONTINENTAL MOTOR MANUFACTURING CO.
DETROIT

FACTORY BUILDING FOR THE FORD MOTOR CO., DETROIT
IN COURSE OF CONSTRUCTION

TRUSSED CONCRETE STEEL COMPANY LTD
CAXTON HOUSE WESTMINSTER

KAHN SYSTEM



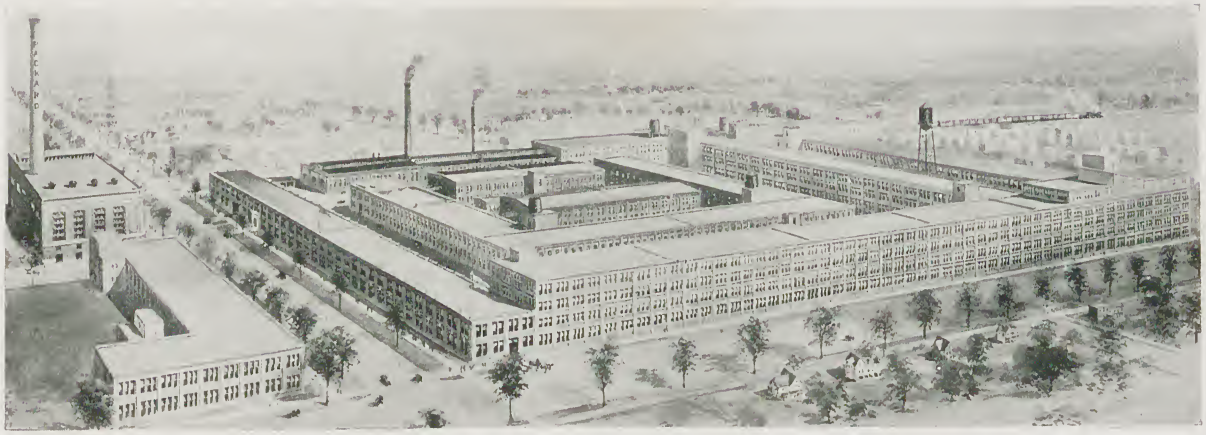
FACTORY BUILDING FOR THE CONTINENTAL MOTOR MANUFACTURING CO.
DETROIT

ADMINISTRATION BUILDING FOR THE FORD MOTOR CO.
DETROIT

TRUSSED CONCRETE STEEL COMPANY LTD
CAXTON HOUSE WESTMINSTER

KAHN SYSTEM

INTERIOR OF FACTORY BUILDING FOR THE FORD MOTOR CO.
DETROIT



BIRDS-EYE VIEW PACKARD MOTOR CAR CO.'S PLANT
DETROIT

TRUSSED CONCRETE STEEL COMPANY LTD
CAXTON HOUSE WESTMINSTER

KAHN SYSTEM

PACKARD MOTOR CAR CO.'S PLANT
DETROIT

INTERIOR OF FACTORY FOR THE CONTINENTAL MOTOR MANUFACTURING CO.
DETROIT

TRUSSED CONCRETE STEEL COMPANY LTD
CAXTON HOUSE WESTMINSTER

KAHN SYSTEM

FACTORY BUILDING FOR THE GRAMOPHONE CO., LTD
AT HAYES
ARTHUR C. BLOMFIELD, Esq., M.A., F.R.I.B.A., Architect

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CAXTON HOUSE WESTMINSTER

KAHN SYSTEM

FACTORY BUILDING FOR THE GRAMOPHONE CO., LTD.
AT HAYES
ARTHUR C. BLOMFIELD, ESQ., M.A.,F.R.I.B.A., Architect

TRUSSED CONCRETE STEEL COMPANY LTD
CAXTON HOUSE WESTMINSTER

KAHN SYSTEM

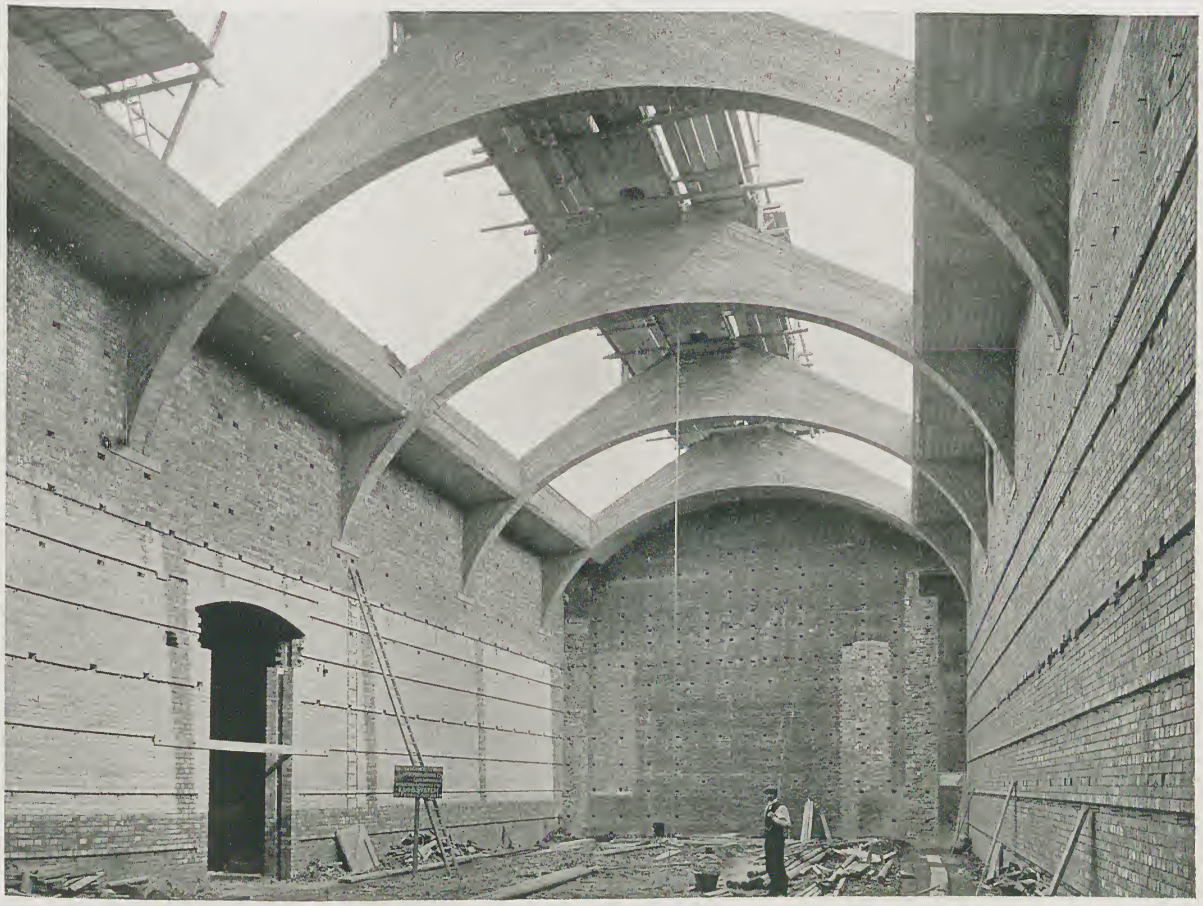
ROOF OF NEW GALLERY AT THE NATIONAL GALLERY FOR H.M. OFFICE OF WORKS

H. N. Hawks, Esq., Architect

TRUSSED CONCRETE STEEL COMPANY LTD

CAXTON HOUSE WESTMINSTER

KAHN SYSTEM



ROOF TRUSSES AND FLOOR AT THE NATIONAL GALLERY, FOR H.M. OFFICE OF WORKS

H. N. Hawks, Esq., Architect

The interior of the National Gallery was entirely reconstructed to make it fireproof, the Kahn System being used throughout. Only the original walls were left standing, all the floors and roofs being reconstructed. We are proud of the fact that the Kahn System was adopted in the reconstruction of the Art Gallery of the nation.

TRUSSED CONCRETE STEEL COMPANY LTD

CAXTON HOUSE WESTMINSTER

KAHN SYSTEM

TELEGRAPH AND TELEPHONE BUILDING FOR SWEDISH GOVERNMENT
AT GOTHENBURG

INTERIOR VIEW SHEWING THE INNER ROOF IN THE ABOVE BUILDING

TRUSSED CONCRETE STEEL COMPANY LTD
CAXTON HOUSE WESTMINSTER

KAHN SYSTEM

IMPERIAL MARITIME CUSTOMS BUILDING
HONG KONG
Messrs. PURNELL & PAGET, Architects

THE NATHAN SHERLOCK BUILDING
KINGSTON, JAMAICA

TRUSSED CONCRETE STEEL COMPANY LTD
CAXTON HOUSE WESTMINSTER

KAHN SYSTEM

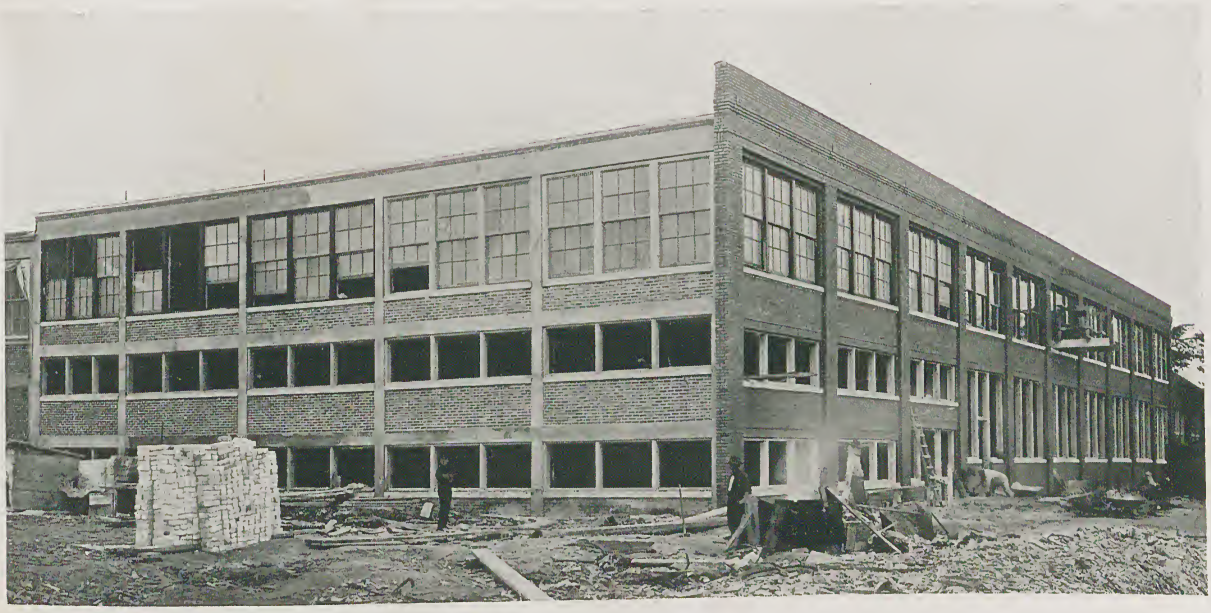
RUBBER WORKSHOP FOR MESSRS. SIEMENS BROS. & CO., LTD.
AT WOOLWICH
Messrs. HERBERT & HELLAND, Architects

THE DAVIS TANNERY AT KINGSTON
ONTARIO

TRUSSED CONCRETE STEEL COMPANY LTD
CAXTON HOUSE WESTMINSTER

KAHN SYSTEM

INTERIOR OF RUBBER WORKSHOP FOR MESSRS. SIEMENS BROS. & CO., LTD.
AT WOOLWICH
Messrs. HERBERT & HELLAND, Architects



ADDITIONAL FACTORY FOR THE BURROUGHS ADDING MACHINE CO.
DETROIT

TRUSSED CONCRETE STEEL COMPANY LTD
CAXTON HOUSE WESTMINSTER

KAHN SYSTEM

THE MUNICIPAL SWIMMING BATH AT CROYDON

SPAN OF THE ARCHED ROOF PRINCIPALS 62 FT.

TRUSSED CONCRETE STEEL COMPANY LTD

CAXTON HOUSE WESTMINSTER

KAHN SYSTEM

ROOF AND GALLERY OF THE HAMMERSMITH BATH
J. H. Frank, Esq., A.R.I.B.A., Architect

BILLIARD HALL AT CLAPHAM FOR THE TEMPERANCE BILLIARD HALLS, LTD.
Norman Evans, Esq., Architect

TRUSSED CONCRETE STEEL COMPANY LTD
CAXTON HOUSE WESTMINSTER

KAHN SYSTEM

THE HERALD PUBLISHING BUILDING AT MONTREAL

Messrs. Brown & Vallance, Architects

TRUSSED CONCRETE STEEL COMPANY LTD

CAXTON HOUSE WESTMINSTER

KAHN SYSTEM

THE A. ROSENTHAL BUILDING AT OTTAWA

A. L. WEEKS, Esq., Architect

TRUSSED CONCRETE STEEL COMPANY LTD

CAXTON HOUSE WESTMINSTER

KAHN SYSTEM

SEED WAREHOUSE FOR MESSRS. JOHNSONS AT BOSTON

A. W. Ruddle, Esq., A.R.I.B.A. Architect

TRUSSED CONCRETE STEEL COMPANY LTD

CAXTON HOUSE WESTMINSTER

KAHN SYSTEM

FURNITURE DEPOSITORY FOR MESSRS. WRIGHT & PANKHURST AT RYE

PHILIP TREE, ESQ., F.R.I.B.A., Architect

TRUSSED CONCRETE STEEL COMPANY LTD

CAXTON HOUSE WESTMINSTER

KAHN SYSTEM

LECTURE HALL FOR THE YORK PHILOSOPHICAL SOCIETY AT YORK

E. Ridsdale Tait, Esq., Architect

TRUSSED CONCRETE STEEL COMPANY LTD

CAXTON HOUSE WESTMINSTER

KAHN SYSTEM

LECTURE HALL FOR THE YORK PHILOSOPHICAL SOCIETY AT YORK

E. RIDSDALE TAIT, Esq., Architect

All the architectural detail here shown is concrete cast in situ

TRUSSED CONCRETE STEEL COMPANY LTD

CAXTON HOUSE WESTMINSTER

KAHN SYSTEM

FACTORY FOR DAYTON MOTOR CAR CO.

DAYTON, OHIO

J. E. RUSS, Architect

HALL-CRONAN CO., Contractors

FIRE TEST ON KAHN SYSTEM BUILDING: Fire started on the fourth floor of the reinforced concrete building shown at right but was confined entirely to that one floor. The fire, however, communicated itself into the old mill construction building, completely destroying two floors and roof in spite of a sprinkler system and the best efforts of the Fire Department. The reinforced concrete building was afterwards tested with heavy loads and found to be unweakened structurally. This was largely due to the perfect method of reinforcement provided by the Kahn Trussed Bars. The entire expense of repairs to the concrete work amounted to less than $500 while the mill construction building was practically a total loss.

TRUSSED CONCRETE STEEL COMPANY LTD

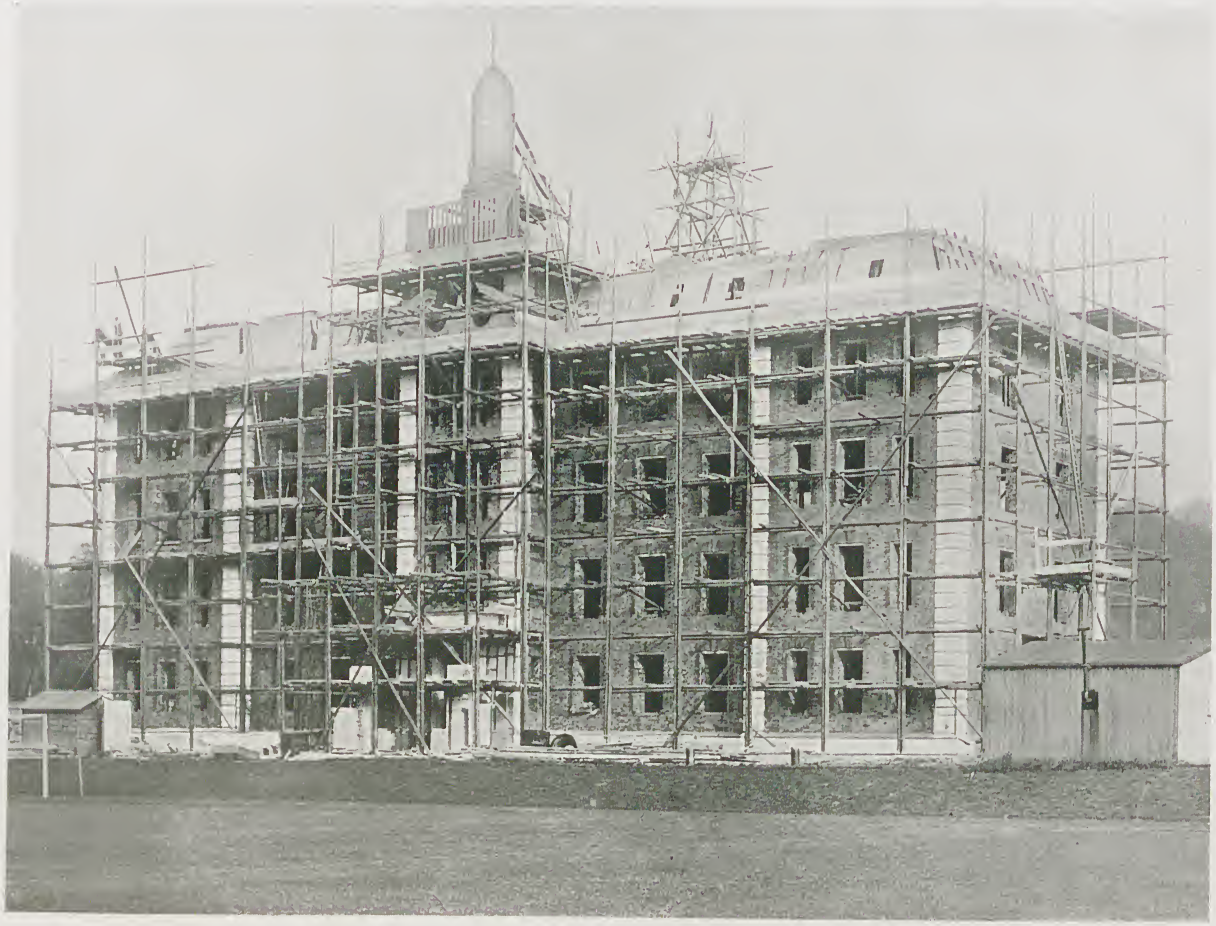
CAXTON HOUSE WESTMINSTER

KAHN SYSTEM

BUILDING IN CHANDOS STREET AND BUCKINGHAM STREET, W.C.
E. KEYNES PURCHASE, Esq., F.R.I.B.A., Architect

TRUSSED CONCRETE STEEL COMPANY LTD
CAXTON HOUSE WESTMINSTER

KAHN SYSTEM



STORE BUILDING FOR THE BANK OF ENGLAND AT ROEHAMPTON

A. C. Blomfield, Esq., M.A., F.R.I.B.A., Architect

TRUSSED CONCRETE STEEL COMPANY LTD

CAXTON HOUSE WESTMINSTER

KAHN SYSTEM

DRAPERY PREMISES FOR MESSRS. ARDING & HOBBS AT CLAPHAM, S.W.

Messrs. Gibson, Skipworth & Gordon, Architects

TRUSSED CONCRETE STEEL COMPANY LTD

CAXTON HOUSE WESTMINSTER

KAHN SYSTEM

INTERIOR VIEW, BIRMINGHAM TELEGRAPH STORES
FOR H.M. OFFICE OF WORKS

JOHN RUTHERFORD, Esq., Architect

TRUSSED CONCRETE STEEL COMPANY LTD
CAXTON HOUSE WESTMINSTER

KAHN SYSTEM

FACTORY FOR MESSRS. JOHN DICKINSON & CO., LTD.

TRUSSED CONCRETE STEEL COMPANY LTD
CAXTON HOUSE WESTMINSTER

KAHN SYSTEM

INTERIOR VIEW OF FACTORY FOR MESSRS. KODAK LTD. AT HARROW

TRUSSED CONCRETE STEEL COMPANY LTD
CAXTON HOUSE WESTMINSTER

KAHN SYSTEM

THE RAILWAY EXCHANGE BUILDING AT ST. LOUIS

This building is 22 storeys high, it contains 30 acres of floor space and required over a million square feet of Kahn System Floretyle construction. Said to be the largest office space under one roof, anywhere in the world.

TRUSSED CONCRETE STEEL COMPANY LTD

CAXTON HOUSE WESTMINSTER

KAHN SYSTEM

ADMINISTRATION AND OPTICS BUILDING FOR THE NATIONAL PHYSICAL LABORATORY, TEDDINGTON
W. D. Carve, Esq., F.R.I.B.A., Architect

ENTIRE NEW PLANT FOR MESSRS. THE ARROL JOHNSON MOTOR CAR CO., LTD., AT DUMFRIES, N.B.
T. C. Pullinger, Esq., and Messrs. Kerr & Watson, Architects

TRUSSED CONCRETE STEEL COMPANY LTD
CAXTON HOUSE WESTMINSTER

KAHN SYSTEM

FIRE STATION HEADQUARTERS AT PRETORIA
Messrs. Cowin & Powers, AA.R.I.B.A., Architects

THE GRAND HOTEL AT TORQUAY
Messrs. Waymouth, Johnson & Webber, Architects

TRUSSED CONCRETE STEEL COMPANY LTD
CAXTON HOUSE WESTMINSTER

KAHN SYSTEM

LOADING FLOOR AND BOTTLING STORE AT A LONDON BREWERY

TRUSSED CONCRETE STEEL COMPANY LTD
CAXTON HOUSE WESTMINSTER

KAHN SYSTEM

AUCTION WAREHOUSE FOR MESSRS. ANDERSON & GARLANDS AT NEWCASTLE-ON-TYNE

Messrs. WATSON & SCOTT, Architects

TRUSSED CONCRETE STEEL COMPANY LTD

CAXTON HOUSE WESTMINSTER

KAHN SYSTEM

FACTORY BUILDING FOR THE BEMIS BAG CO., LTD., AT WINNIPEG

A. H. Lester, Esq., Architect

TRUSSED CONCRETE STEEL COMPANY LTD

CAXTON HOUSE WESTMINSTER

KAHN SYSTEM

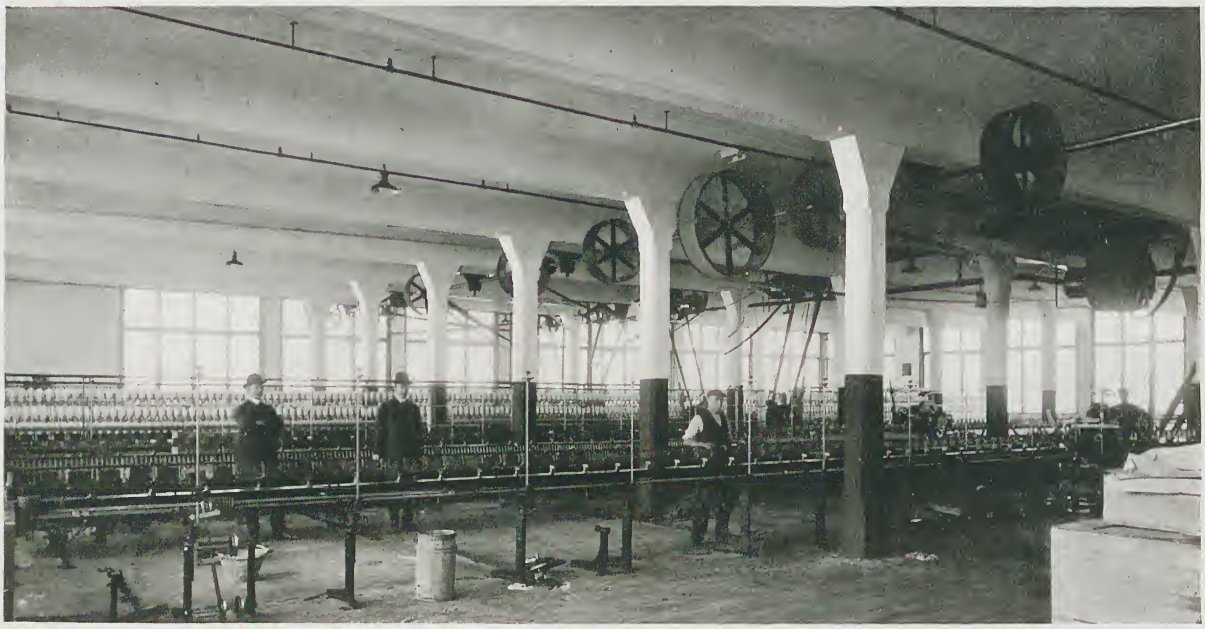
WAREHOUSE FOR MESSRS. BRIGDENS, LTD., AT TORONTO

Messrs. Bond & Smith, Architects

TRUSSED CONCRETE STEEL COMPANY LTD

CAXTON HOUSE WESTMINSTER

KAHN SYSTEM



SPINNING MILL FOR THE EAGLE SPINNING MILLS CO. AT HAMILTON, ONTARIO

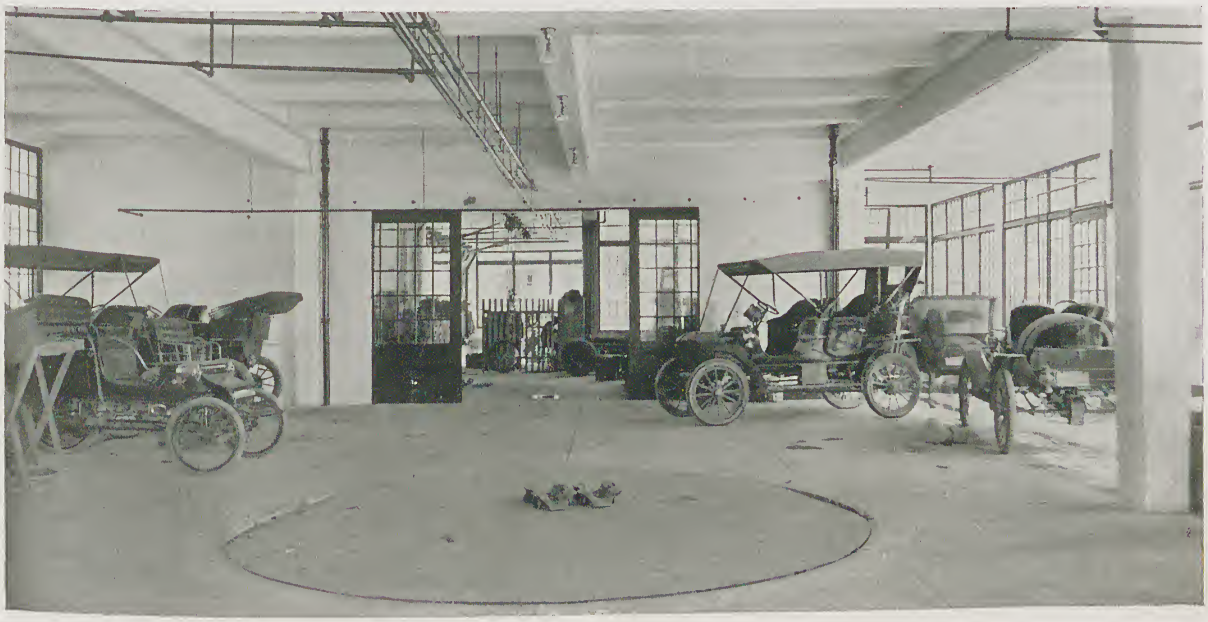
FOUNDRY FOR THE WILLIAMS & WHITE CO. AT MOLINE

SPAN OF ROOF GIRDERS, 74 FT. 8 IN.

TRUSSED CONCRETE STEEL COMPANY LTD

CAXTON HOUSE WESTMINSTER

KAHN SYSTEM



GARAGE FOR THE LEIGHTON AUTOMOBILE CO. AT BROCKTON

GARAGE FOR THE WHITE MOTOR CO. AT SAN FRANCISCO

TRUSSED CONCRETE STEEL COMPANY LTD
CAXTON HOUSE WESTMINSTER

KAHN SYSTEM

TYPICAL INTERIOR OF BUILDING FOR MESSRS. HARRISONS & CROSFIELD, LTD., COLOMBO

HUBERT WALKER, Esq., A.R.I.B.A., Architect

TRUSSED CONCRETE STEEL COMPANY LTD

CAXTON HOUSE WESTMINSTER

KAHN SYSTEM

WAREHOUSE AND SALE ROOMS FOR MESSRS. HARRISONS & CROSFIELD, LTD.
AT COLOMBO

HUBERT WALKER, Esq., A.R.I.B.A., Architect

TRUSSED CONCRETE STEEL COMPANY LTD
CAXTON HOUSE WESTMINSTER

KAHN SYSTEM

THE UNION CLUB AT JOHANNESBURG

Messrs. HERBERT BAKER & FLEMING, Architects

TRUSSED CONCRETE STEEL COMPANY LTD

CAXTON HOUSE WESTMINSTER

KAHN SYSTEM

PATLANSKYS BUILDING, JOHANNESBURG

J. Beardwood, Esq., Architect

TRUSSED CONCRETE STEEL COMPANY LTD

CAXTON HOUSE WESTMINSTER

KAHN SYSTEM

THE MARLBORO-BLENHEIM HOTEL AT ATLANTIC CITY
Messrs. PRICE & MCLANAHAN, Architects

RESIDENCE OF E. CHANDLER WALKER, ESQ., WALKERVILLE, ONTARIO

TRUSSED CONCRETE STEEL COMPANY LTD
CAXTON HOUSE WESTMINSTER

KAHN SYSTEM

THE ATLAS CHAMBERS, LEEDS

Messrs. PERKINS & BULMER, FF.R.I.B.A., Architects

TRUSSED CONCRETE STEEL COMPANY LTD

CAXTON HOUSE WESTMINSTER

KAHN SYSTEM

INTERIOR VIEW OF MESSRS. G. & J. WEIR'S ADMINISTRATION BUILDING
AT CATHCART, GLASGOW

TRUSSED CONCRETE STEEL COMPANY LTD
CAXTON HOUSE WESTMINSTER

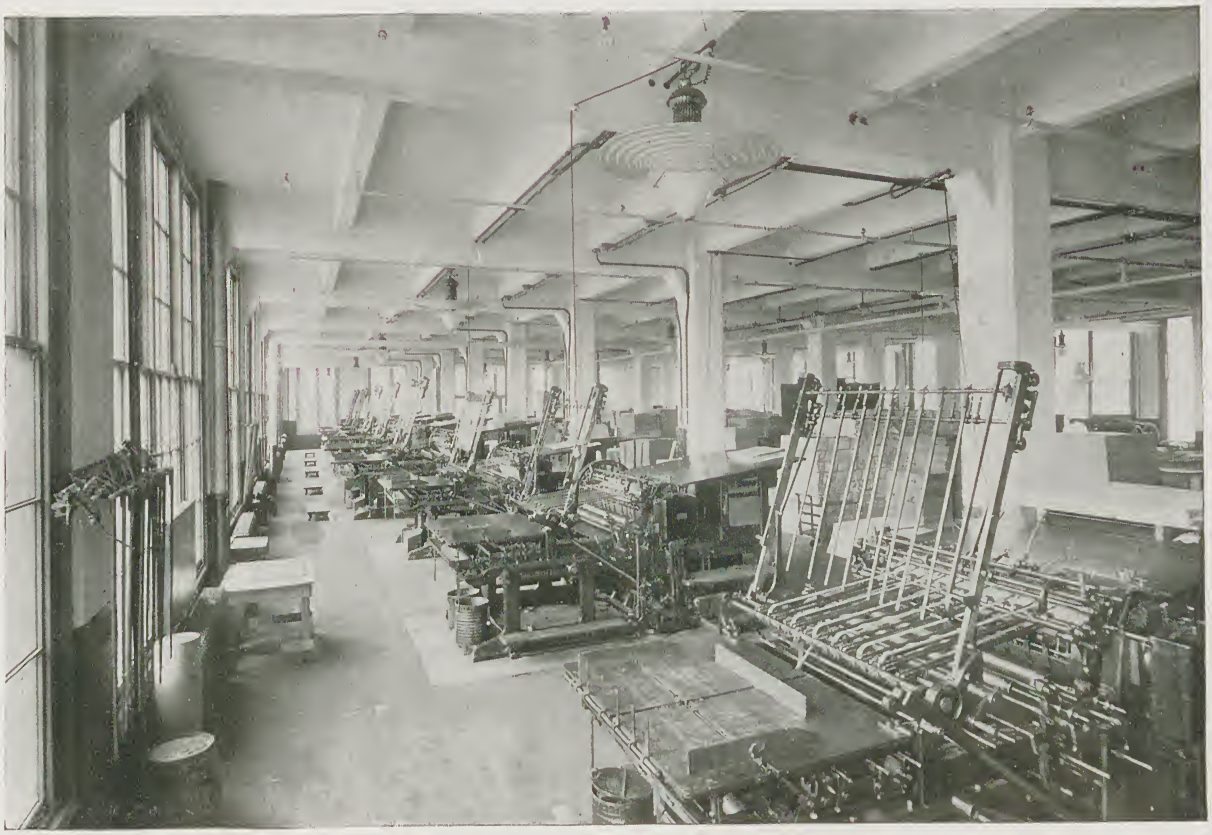
KAHN SYSTEM

FRIAR'S HOUSE
NEW BROAD STREET, E.C.
A. C. BLOMFIELD, Esq., M.A., F.R.I.B.A., Architect

THE ANGLO-SOUTH AMERICAN BANK
OLD BROAD STREET, E.C.
M. E. COLLINS, Esq., F.R.I.B.A., Architect

TRUSSED CONCRETE STEEL COMPANY LTD
CAXTON HOUSE WESTMINSTER

KAHN SYSTEM



PRINTING FACTORY FOR THE BALTIMORE PRESS

Messrs. BALLINGER & PERROT, Architects

TRUSSED CONCRETE STEEL COMPANY LTD

CAXTON HOUSE WESTMINSTER

KAHN SYSTEM

INTERIOR OF MACHINE ROOM FOR THE PACKARD MOTOR CAR CO.
DETROIT

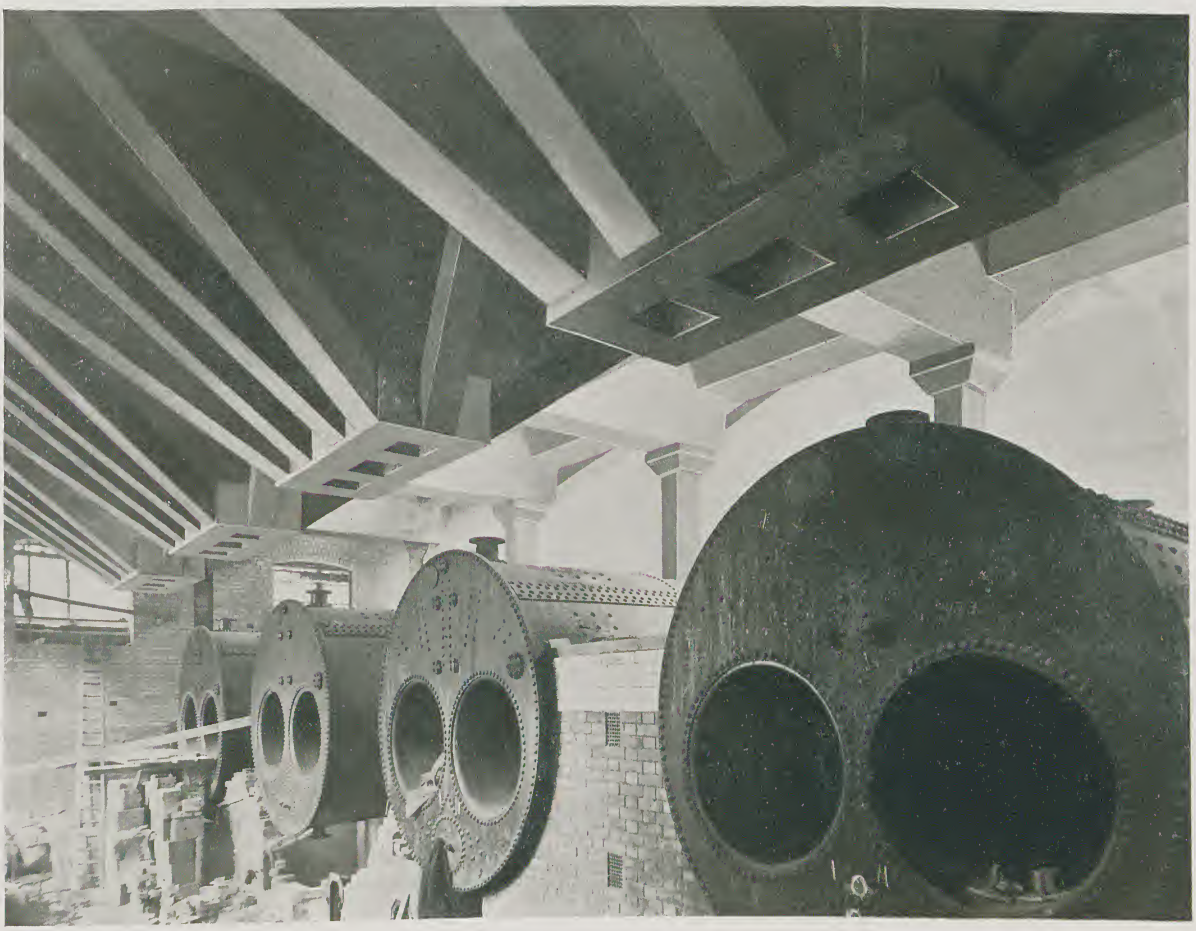
TRUSSED CONCRETE STEEL COMPANY LTD
CAXTON HOUSE WESTMINSTER

KAHN SYSTEM

HOPPER BOILER FEEDS, ROOF AND BUNKERS AT A LONDON BREWERY

TRUSSED CONCRETE STEEL COMPANY LTD
CAXTON HOUSE WESTMINSTER

KAHN SYSTEM



COAL HOPPERS AT A LONDON BREWERY

TRUSSED CONCRETE STEEL COMPANY LTD
CAXTON HOUSE WESTMINSTER

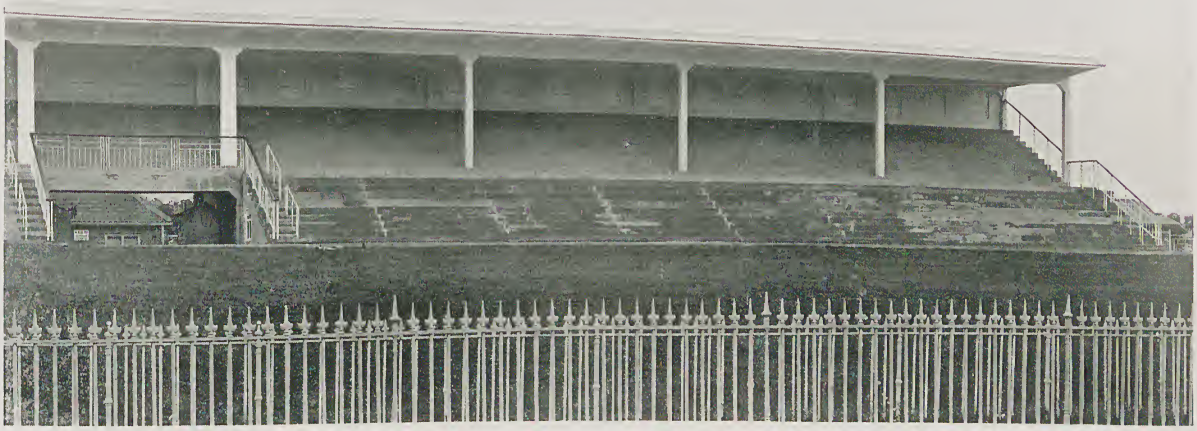
KAHN SYSTEM

FIVE SHILLING STAND AT YORK RACECOURSE
WALTER H. BRIERLEY, Esq., F.R.I.B.A., Architect

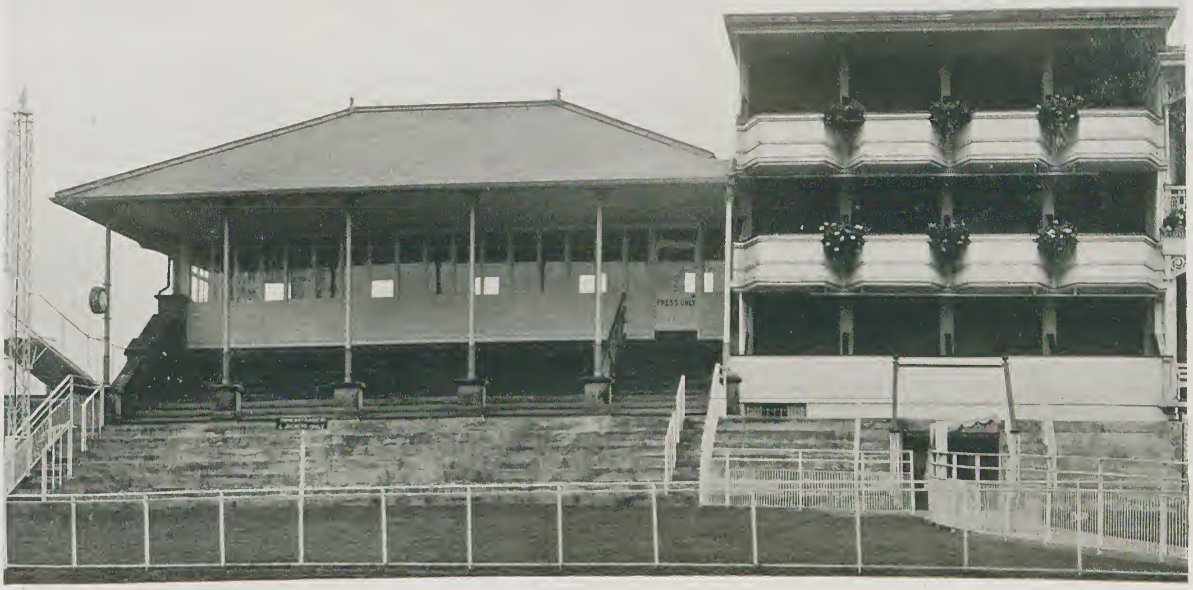
FOOTBALL STAND FOR THE RUGBY UNION AT TWICKENHAM
Messrs. PROFIT, HENDERSON & BROWN, Architects

TRUSSED CONCRETE STEEL COMPANY LTD
CAXTON HOUSE WESTMINSTER

KAHN SYSTEM



FIVE SHILLING STAND AT YORK RACECOURSE
WALTER H. BRIERLEY, Esq., F.R.I.B.A., Architect



MEMBERS STAND AT YORK RACECOURSE
WALTER H. BRIERLEY, Esq., F.R.I.B.A., Architect

TRUSSED CONCRETE STEEL COMPANY LTD
CAXTON HOUSE WESTMINSTER

KAHN SYSTEM

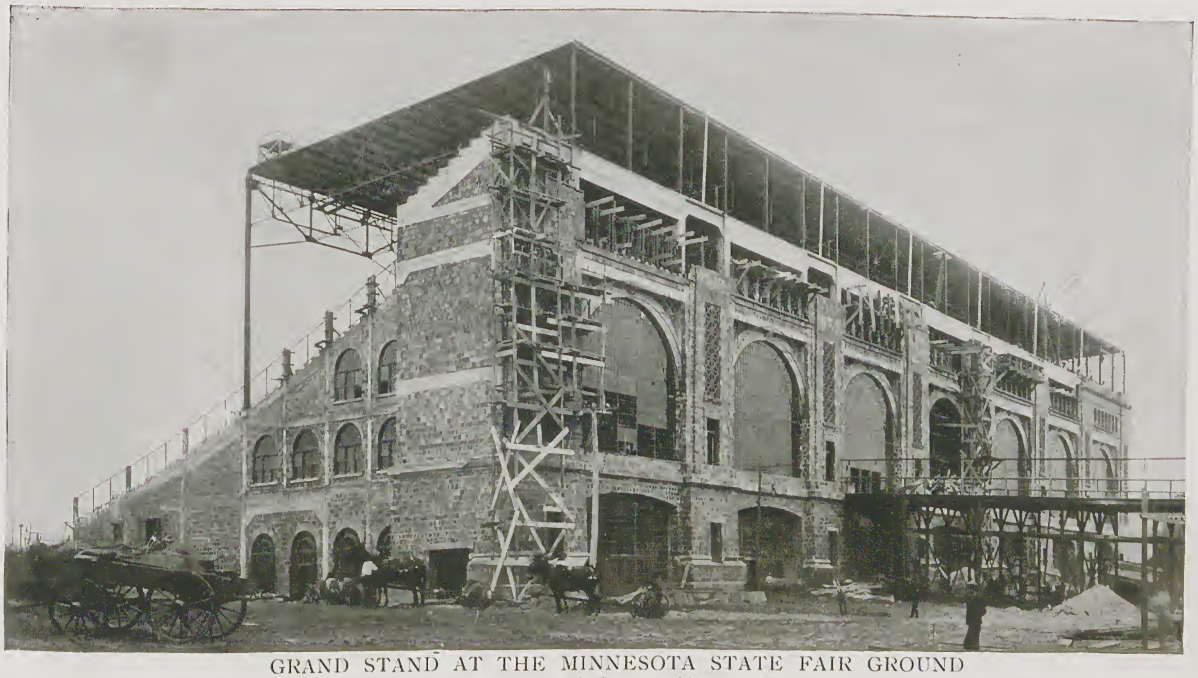
FOOTBALL STAND FOR THE HUDDERSFIELD FOOTBALL CLUB AT HUDDERSFIELD

FOOTBALL STAND FOR THE WEST HAM FOOTBALL CLUB AT WEST HAM

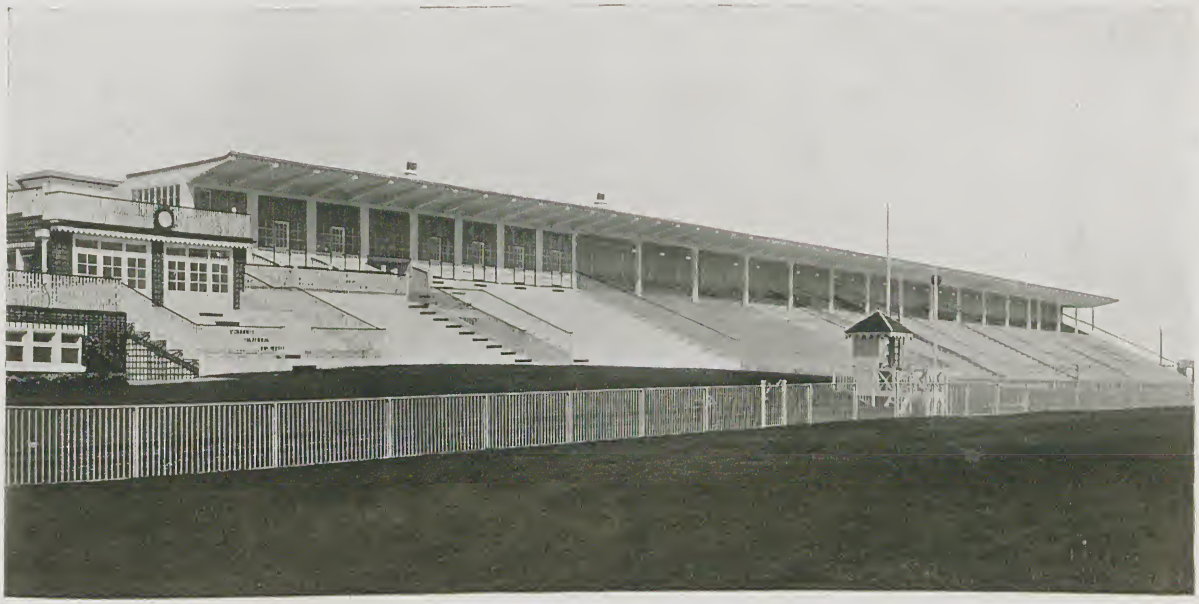
TRUSSED CONCRETE STEEL COMPANY LTD

CAXTON HOUSE WESTMINSTER

KAHN SYSTEM



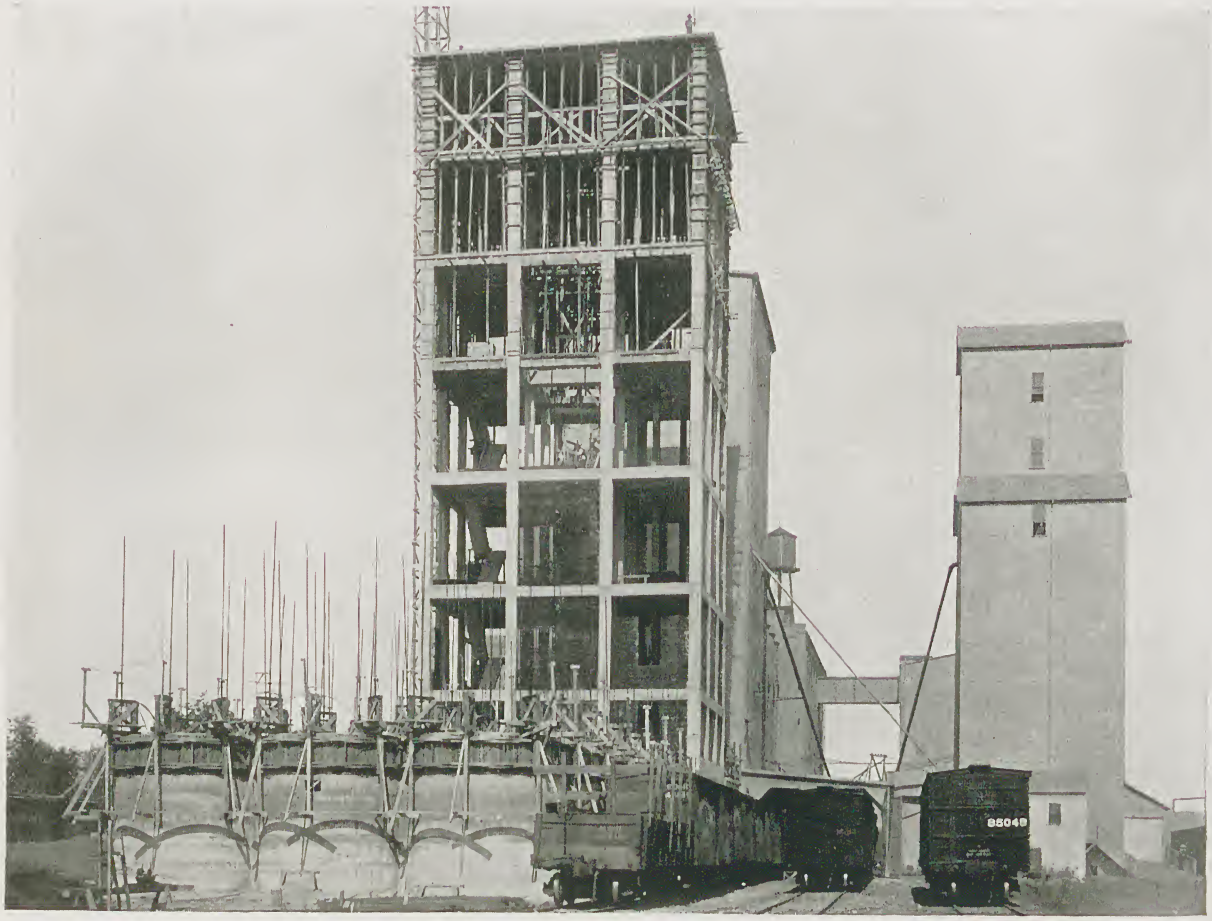
GRAND STAND AT THE MINNESOTA STATE FAIR GROUND
Messrs Reed & Stem, Architects



RACE STAND AT PRESTON PARK, BLACKPOOL
A. Hindle, Esq., Architect

TRUSSED CONCRETE STEEL COMPANY LTD
CAXTON HOUSE WESTMINSTER

KAHN SYSTEM



MILL AND GRAIN SILOS FOR THE WESTERN CANADA FLOUR MILL CO.
AT WINNIPEG
GEO. H. ARCHIBALD, ESQ., Engineer

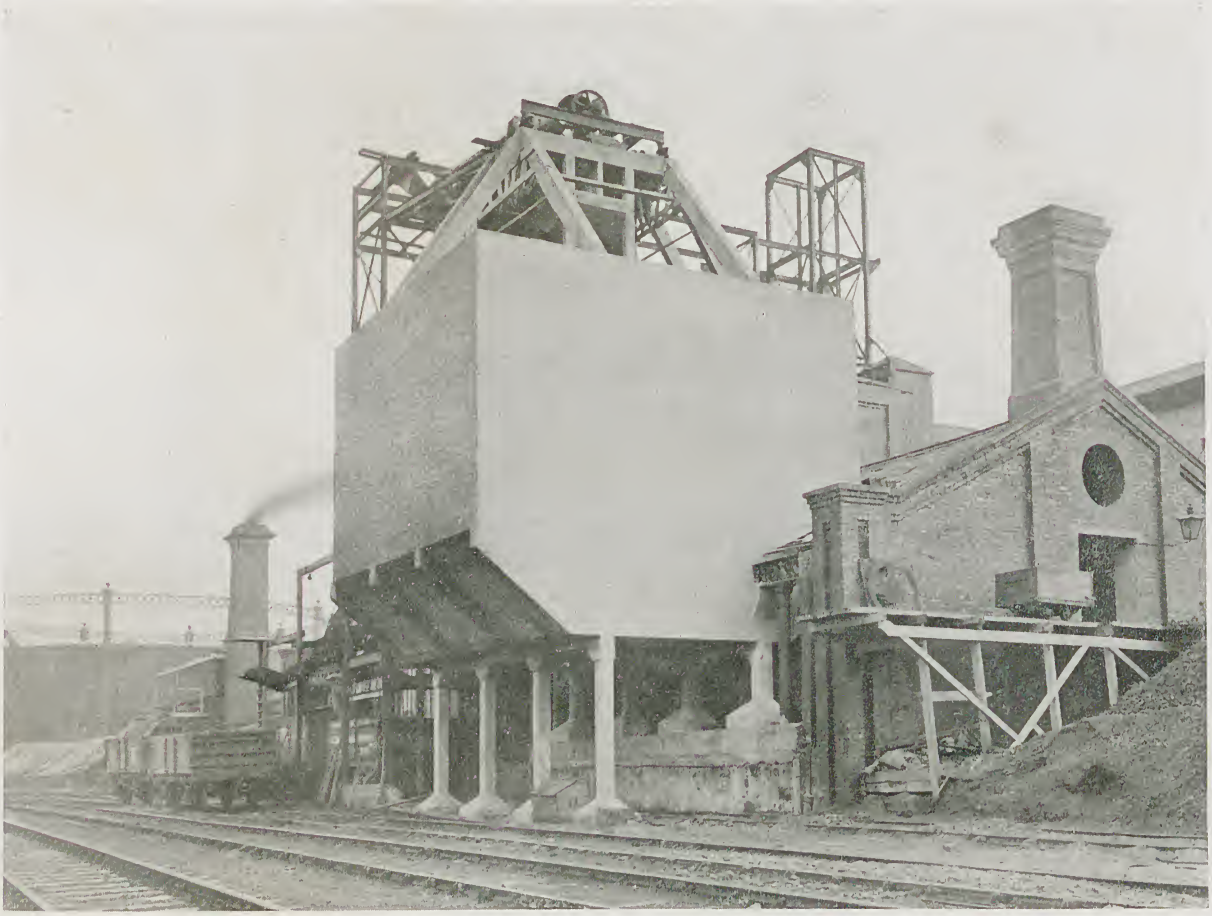
TRUSSED CONCRETE STEEL COMPANY LTD
CAXTON HOUSE WESTMINSTER

KAHN SYSTEM

GRAIN SILOS FOR THE WESTERN CANADA FLOUR MILL CO.
AT WINNIPEG
GEO. H. ARCHIBALD, Esq., Engineer

TRUSSED CONCRETE STEEL COMPANY LTD
CAXTON HOUSE WESTMINSTER

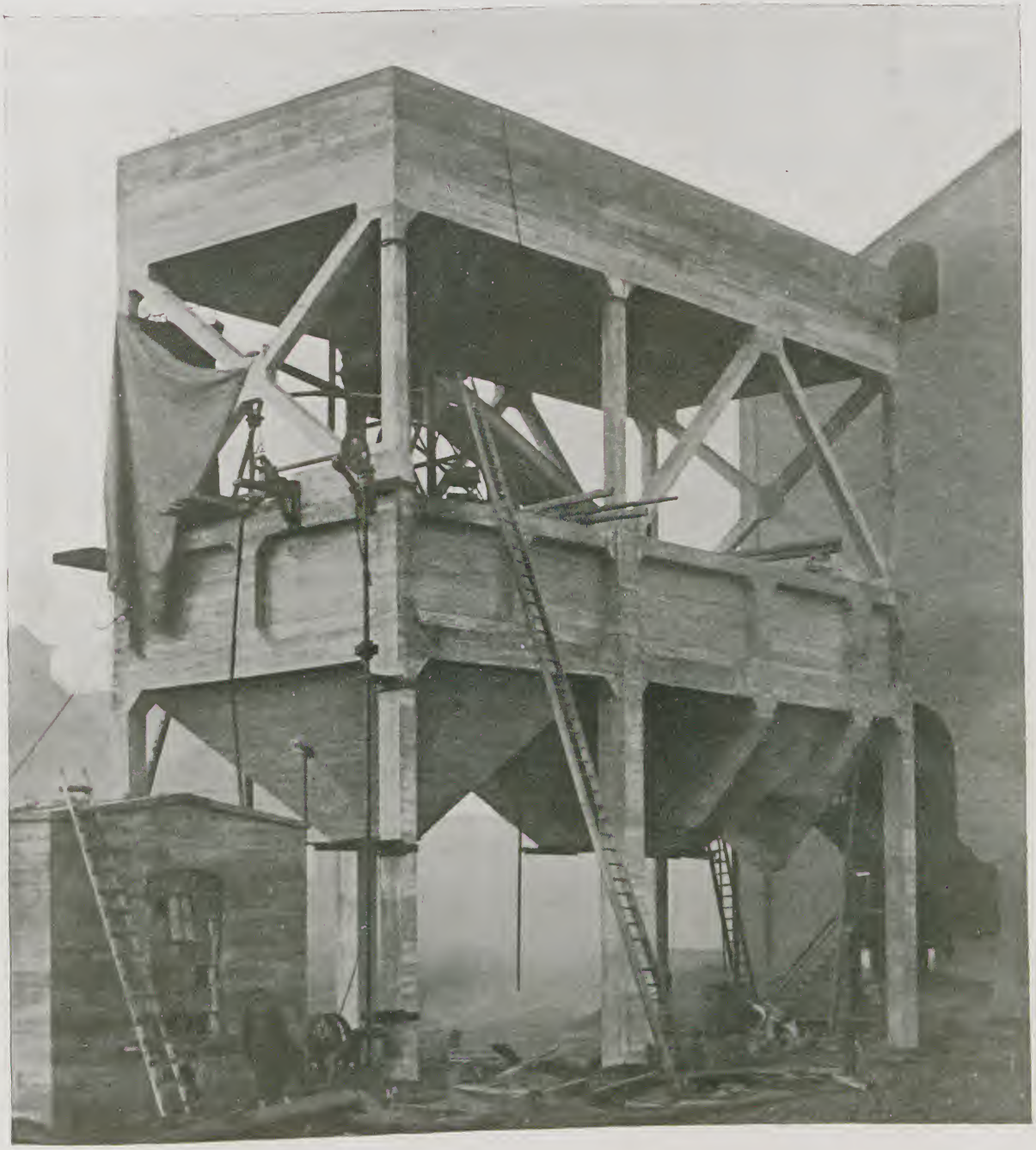
KAHN SYSTEM



COAL BUNKERS FOR THE DUNFERMLINE GAS CO.
AT DUNFERMLINE

TRUSSED CONCRETE STEEL COMPANY LTD
CAXTON HOUSE WESTMINSTER

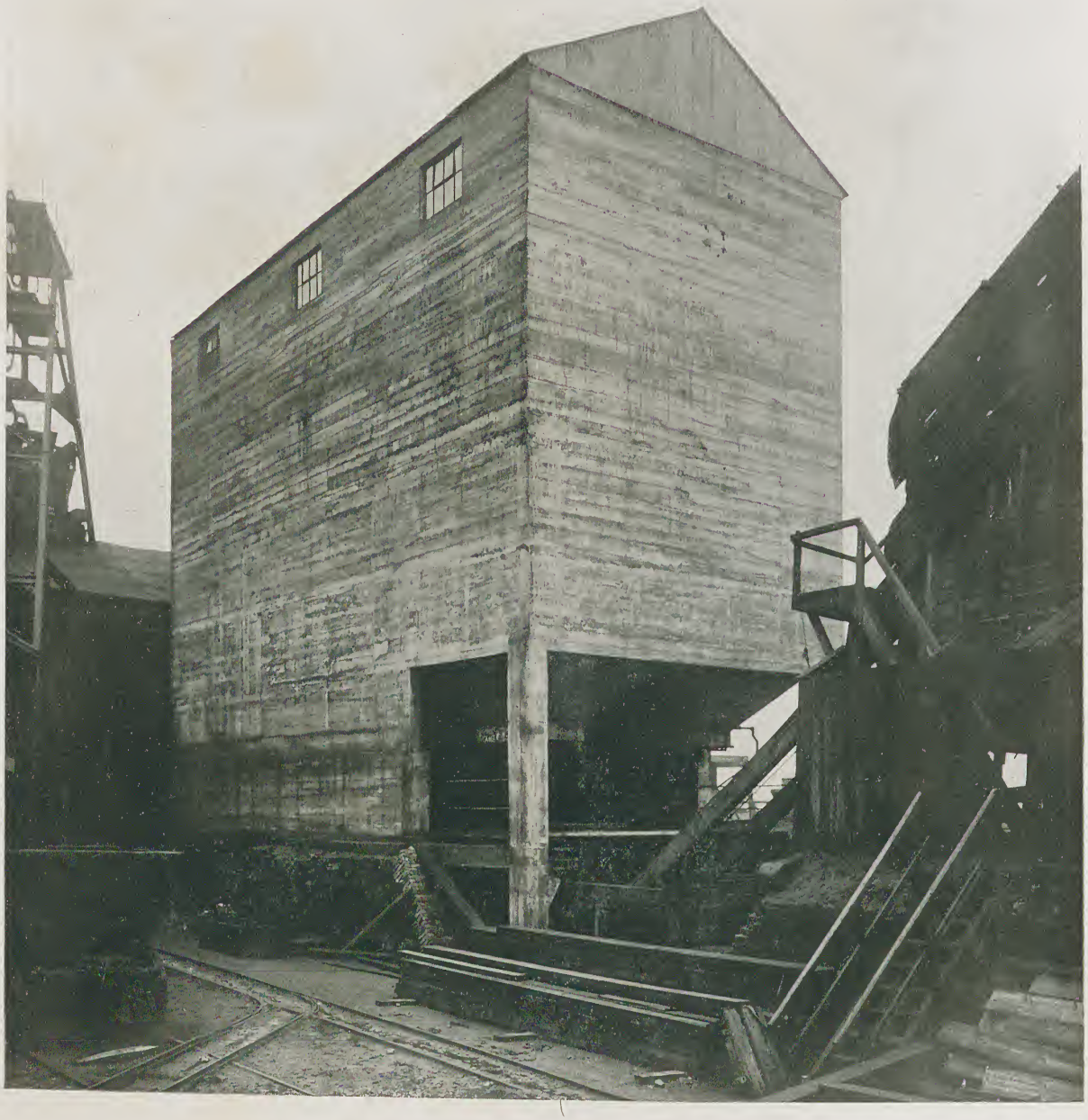
KAHN SYSTEM



WATER TANK AND COAL BUNKERS FOR THE CORPORATION OF BLACKBURN

TRUSSED CONCRETE STEEL COMPANY LTD
CAXTON HOUSE WESTMINSTER

KAHN SYSTEM



COAL BUNKERS AT THE ESH-WINNING COLLIERY, CO. DURHAM

Messrs. ROBERT WILSON & SONS, Engineers

TRUSSED CONCRETE STEEL COMPANY LTD

CAXTON HOUSE WESTMINSTER

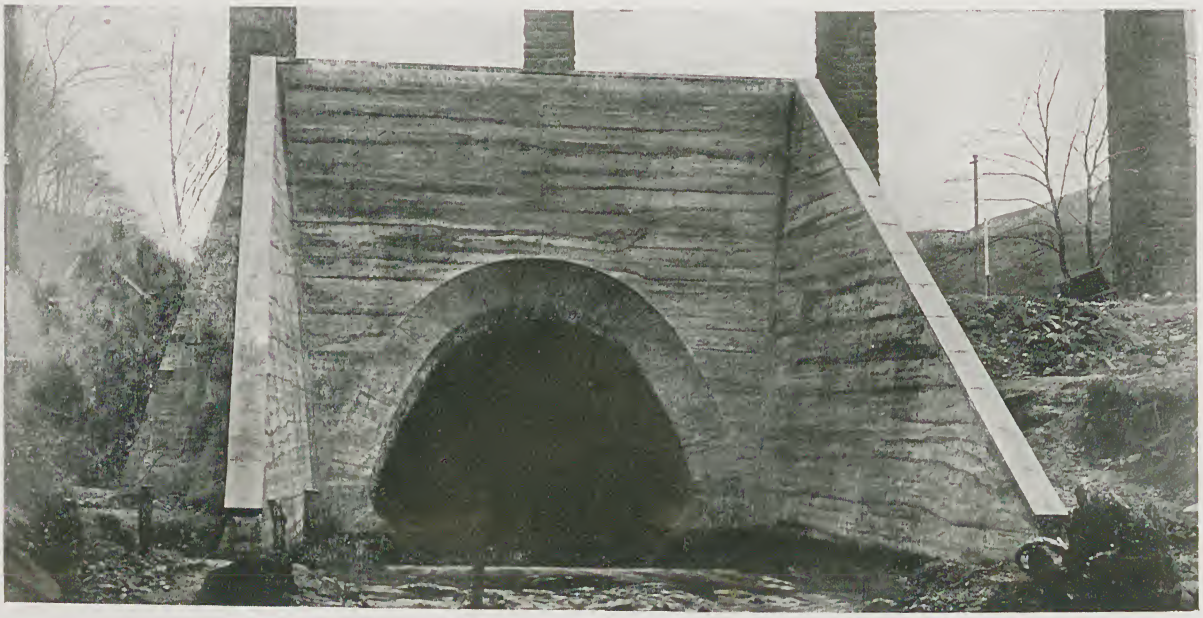
KAHN SYSTEM

GANTRY AND COAL STORE FOR THE ROCHDALE GAS CO. AT ROCHDALE
T. Banbury Ball, Esq., Engineer

TRUSSED CONCRETE STEEL COMPANY LTD
CAXTON HOUSE WESTMINSTER

KAHN SYSTEM

STORAGE TANKS FOR 1,000,000 GALLONS FOR THE GRAMOPHONE CO., LTD.
HAYES

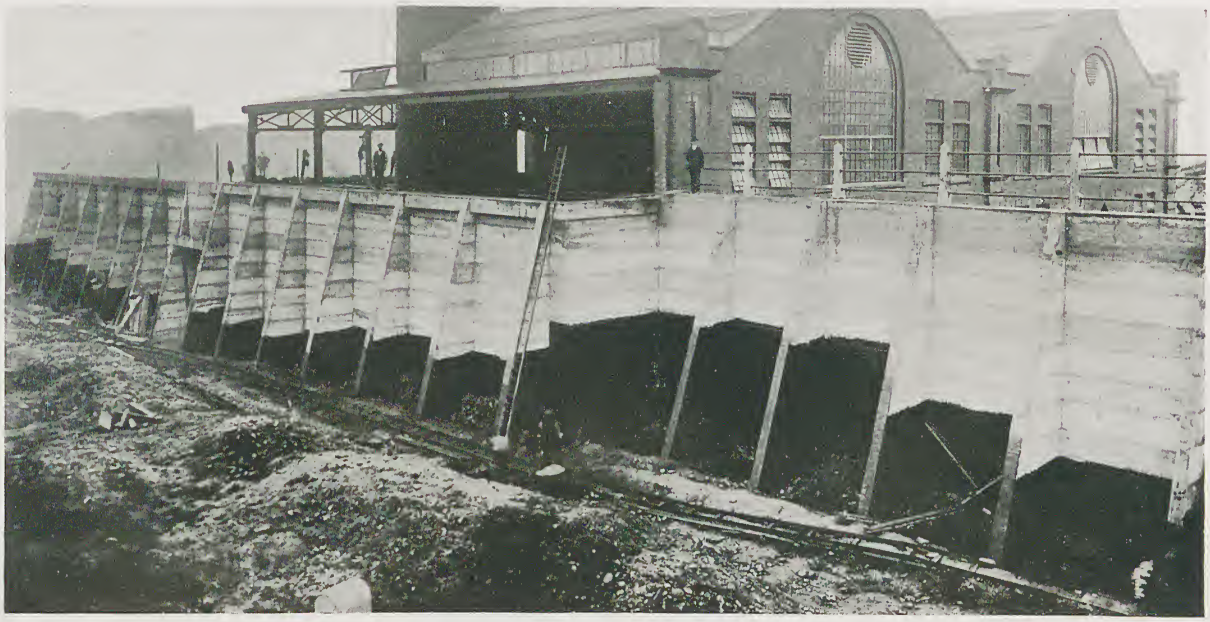


BELL MOUTH OF THE KILTON CULVERT, 450 FT. LONG, FOR THE N.E. RAILWAY CO.

21 FT. ACROSS OPENING OF CULVERT

TRUSSED CONCRETE STEEL COMPANY LTD
CAXTON HOUSE WESTMINSTER

KAHN SYSTEM



RETAINING WALL, 35 FT. HIGH, FOR THE ELECTRICITY DEPARTMENT, BURY, LANCS.
A. W. BRADLEY, Esq., Engineer

RETAINING WALL AND VAULTS FOR THE NEW GOVERNMENT OFFICES, WESTMINSTER
SIR HENRY TANNER, M.V.O., Architect

TRUSSED CONCRETE STEEL COMPANY LTD
CAXTON HOUSE WESTMINSTER

KAHN SYSTEM

PIER BUILT ON THE KAHN SYSTEM AT SANTA MONICA

EDWARD F. WARNER, Esq., Engineer

QUAY BUILT ON THE KAHN SYSTEM AT LAS PALMAS

WARDEN STEVENS, Esq., Engineer

TRUSSED CONCRETE STEEL COMPANY LTD

CAXTON HOUSE WESTMINSTER

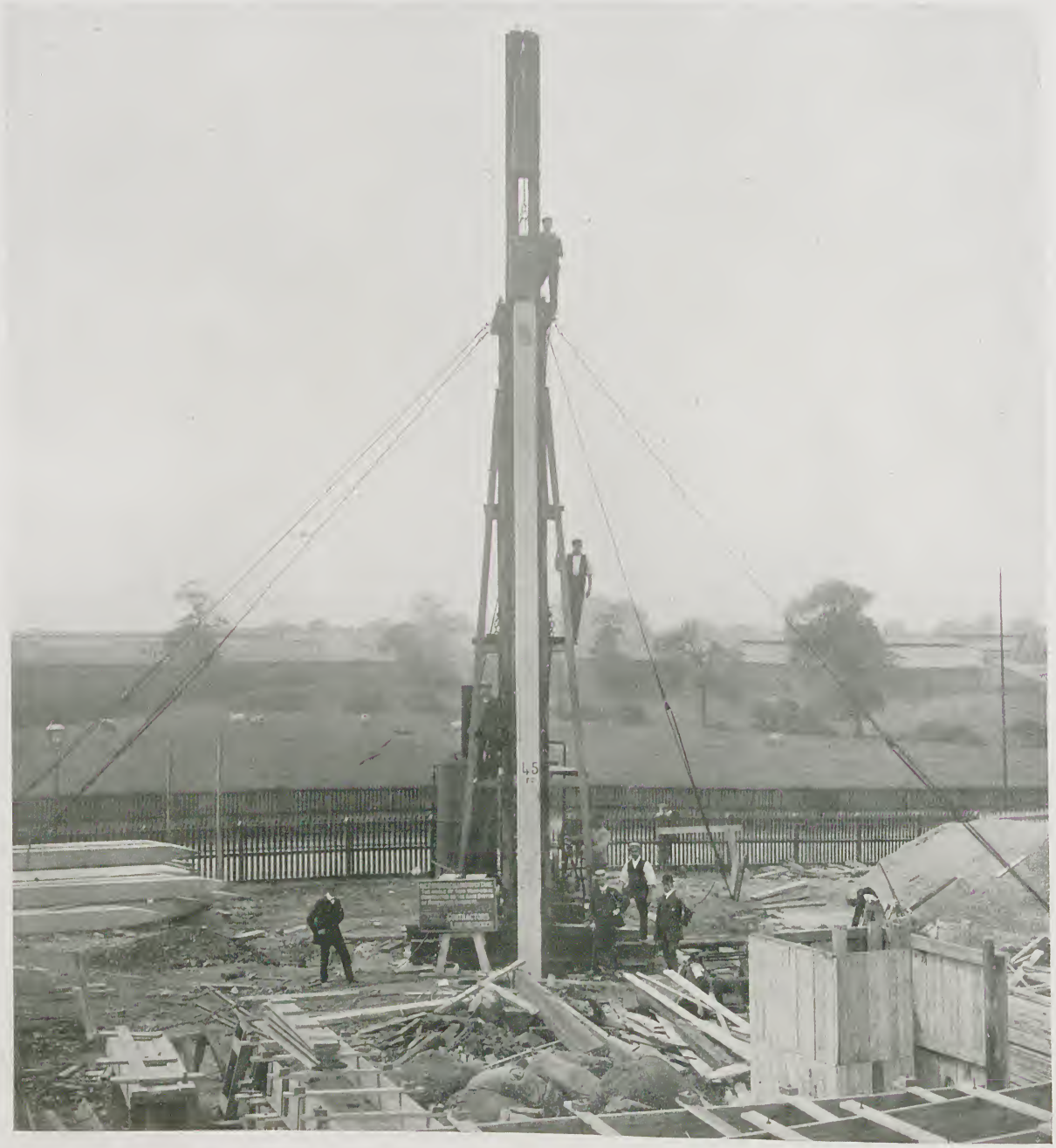
KAHN SYSTEM

THE TOWN QUAY FOR THE BOROUGH OF SOUTHAMPTON
E. Cooper Poole, Esq., Engineer

A JETTY ON THE KAHN SYSTEM OF REINFORCED CONCRETE

TRUSSED CONCRETE STEEL COMPANY LTD
CAXTON HOUSE WESTMINSTER

KAHN SYSTEM



DRIVING A 45 Ft. KAHN PILE FOR THE FOUNDATIONS OF THE YORK WATER TOWER
Opposite

TRUSSED CONCRETE STEEL COMPANY LTD
CAXTON HOUSE WESTMINSTER

KAHN SYSTEM

WATER TOWER, 50 FT. HIGH
AT HORWOOD HOUSE
Messrs. DETMAR BLOW & BILLEREY, FF.R.I.B.A., Architects

WATER TOWER, 100 FT. HIGH
FOR THE N.E. RAILWAY AT YORK
S. W. CUDWORTH, Esq., M.Inst.C.E., Engineer

TRUSSED CONCRETE STEEL COMPANY LTD
CAXTON HOUSE WESTMINSTER

KAHN SYSTEM

CURRENT RIVER BRIDGES AT PORT ARTHUR, ONTARIO
L. M. JONES, Esq., Engineer

CURRENT RIVER BRIDGES AT PORT ARTHUR, ONTARIO
L. M. JONES, Esq., Engineer

TRUSSED CONCRETE STEEL COMPANY LTD
CAXTON HOUSE WESTMINSTER

KAHN SYSTEM

VIADUCT AT PACIFIC STREET, APPLETON

W. W. De Long, Esq., Engineer

TRUSSED CONCRETE STEEL COMPANY LTD
CAXTON HOUSE WESTMINSTER

KAHN SYSTEM

WOODBRIDGE CONSTRUCTED FOR THE SURREY COUNTY COUNCIL AT GUILDFORD
A. DRYLAND, Esq., Engineer

RASUNDA BRIDGE, STOCKHOLM

TRUSSED CONCRETE STEEL COMPANY LTD
CAXTON HOUSE WESTMINSTER

KAHN SYSTEM

WOODBRIDGE CONSTRUCTED FOR THE SURREY COUNTY COUNCIL AT GUILDFORD
A. Dryland, Esq., Engineer

LAKE PARK BRIDGE OF 118 Ft. CLEAR SPAN AT MILWAUKEE

TRUSSED CONCRETE STEEL COMPANY LTD
CAXTON HOUSE WESTMINSTER

KAHN SYSTEM

HIGHWAY BRIDGE AT ST. MARY'S, ONTARIO

CHAS. TALBOT, Esq., Engineer

PONTELAND BRIDGE AT PONTELAND, NORTHUMBERLAND

Messrs. WATSON & SCOTT, Architects

TRUSSED CONCRETE STEEL COMPANY LTD

CAXTON HOUSE WESTMINSTER

KAHN SYSTEM

STRANMILLIS BRIDGE OVER THE RIVER LAGAN, BELFAST
H. A. Cutler, Esq., M.Inst.C.E., Engineer

STRANMILLIS BRIDGE, 242 Ft. LONG, AT BELFAST
H. A. Cutler, Esq., M.Inst.C.E., Engineer

TRUSSED CONCRETE STEEL COMPANY LTD
CAXTON HOUSE WESTMINSTER

KAHN SYSTEM

MOORTOWN BRIDGE FOR LORD WIMBORNE AT UPPER PARKSTONE, DORSET
THE CUBITT CONCRETE CONSTRUCTION CO., Engineers

THE NELSON STREET VIADUCT, 479 FT. LONG, OVER THE SOUTHERN RAILWAY, ATLANTA
D. W. LUN, Esq., Engineer

TRUSSED CONCRETE STEEL COMPANY LTD
CAXTON HOUSE WESTMINSTER

KAHN SYSTEM

HIGHWAY ARCH BRIDGE AT OSHAWA, ONTARIO

Messrs. Connor & Monds, Engineers

RINGWOOD ROAD BRIDGE FOR LORD WIMBORNE AT UPPER PARKSTONE, DORSET

The Cubitt Concrete Construction Co., Engineers

TRUSSED CONCRETE STEEL COMPANY LTD

CAXTON HOUSE WESTMINSTER

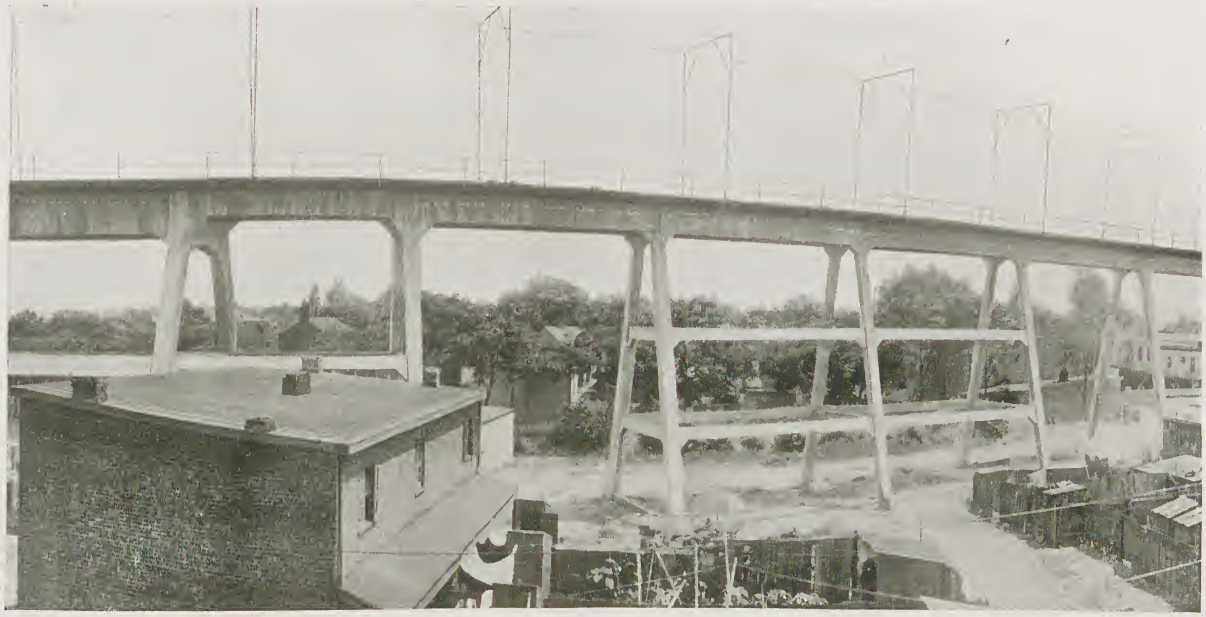
KAHN SYSTEM

RAILWAY VIADUCT FOR THE RICHMOND AND CHESAPEAKE BAY RAILWAY CO. AT RICHMOND
HERMANN FOUGNER, Esq., Engineer

HARTLAKE BRIDGE, NEAR TONBRIDGE, KENT
UNDER TEST OF 55 TONS
J. HARRIS, Esq., C.E., Engineer

TRUSSED CONCRETE STEEL COMPANY LTD
CAXTON HOUSE WESTMINSTER

KAHN SYSTEM

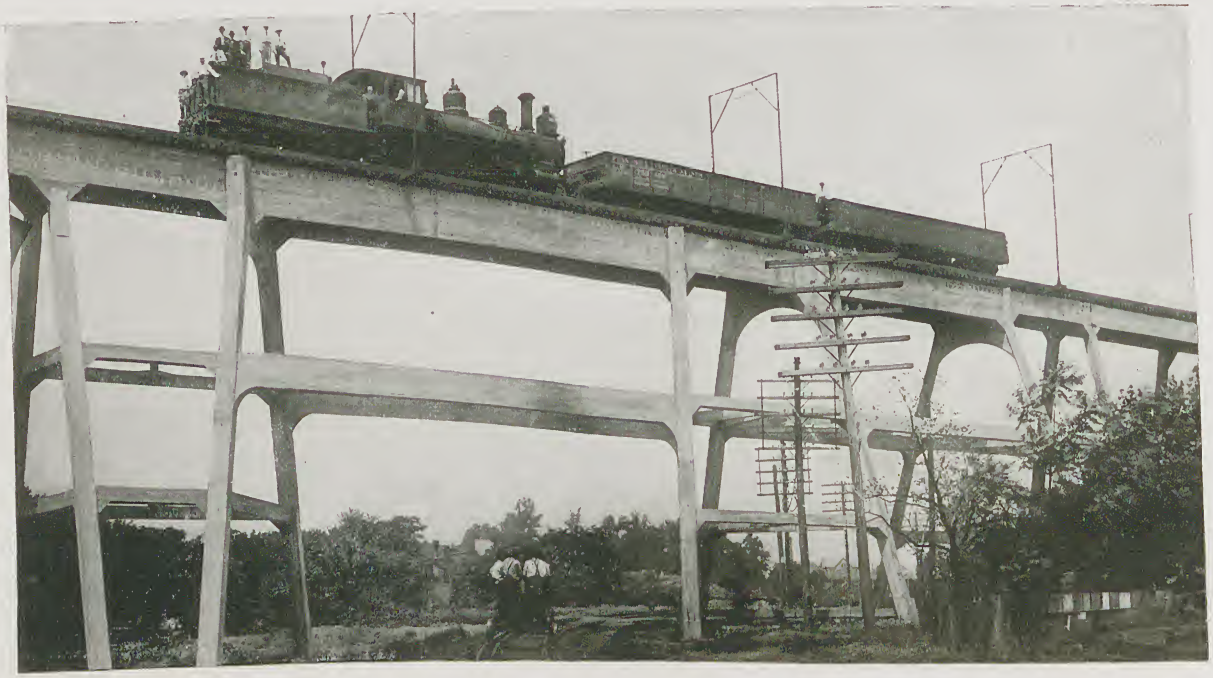


RAILWAY VIADUCT FOR THE RICHMOND AND CHESAPEAKE BAY RAILWAY CO. AT RICHMOND
HERMANN FOUGNER, Esq., Engineer

BRIDGE OF 75 FT. SPAN WITH APPROACHES AT THE YORK RACECOURSE, YORK
WALTER H. BRIERLEY, Esq., F.R.I.B.A., Architect

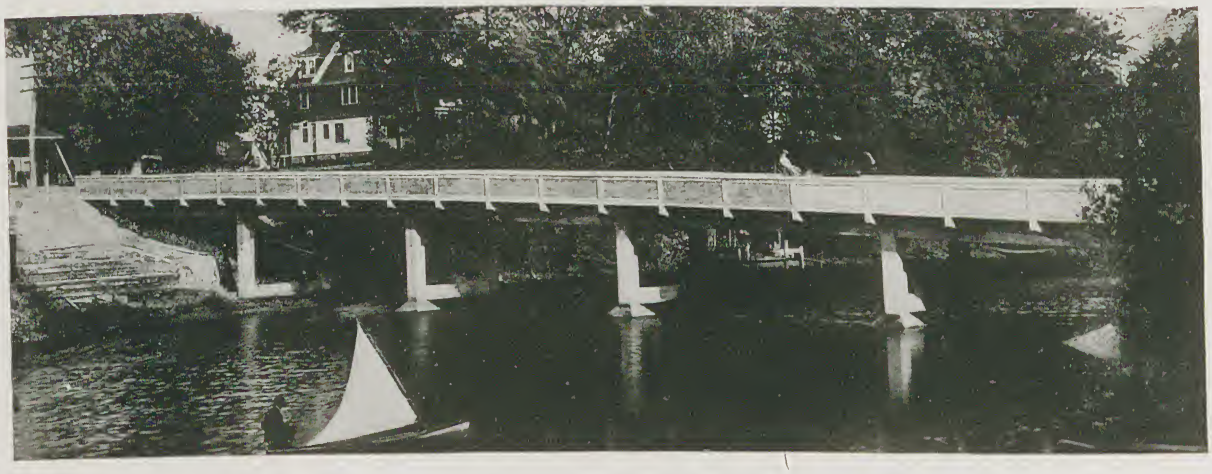
TRUSSED CONCRETE STEEL COMPANY LTD
CAXTON HOUSE WESTMINSTER

KAHN SYSTEM



RAILWAY VIADUCT FOR THE RICHMOND AND CHESAPEAKE BAY RAILWAY CO. AT RICHMOND

HERMANN FOUGNER, Esq., Engineer



CHOPTANK BRIDGE AT GREENSBORO

LAYTON F. SMITH, Esq., Engineer

TRUSSED CONCRETE STEEL COMPANY LTD

CAXTON HOUSE WESTMINSTER

KAHN SYSTEM

CLAY STREET GIRDER, SPAN 67 FT. 4 IN., OF THE RICHMOND AND CHESAPEAKE RAILWAY VIADUCT

UNDER TEST OF LOCOMOTIVE, TENDER AND TWO CAR LOADS OF RAILS, TOTALLING 210 TONS

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CAXTON HOUSE WESTMINSTER

KAHN SYSTEM

INVERLEIGH BRIDGE OF THREE ARCH SPANS OF 100 FT. EACH AT PETERBOROUGH, ONTARIO
T. A. S. HAY, Esq., Engineer

WERGIN'S BRIDGE FOR THE HEREFORDSHIRE COUNTY COUNCIL AT HEREFORD
G. H. JACK, Esq., C.E., F.G.S., Engineer

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KAHN SYSTEM

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TOWER STREET BRIDGE OF 80 FT. SPAN AT FERGUS, ONTARIO

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F. L. Dormant, Esq., Engineer

BRIDGE AT THORVERTON, NEAR EXETER
The Expanded Metal Co., Ltd., Engineers

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KAHN SYSTEM

MAIN STREET VIADUCT FOR THE MUNICIPAL AUTHORITY AT HOUSTON
F. L. Dormant, Esq., Engineer

HIGHWAY BRIDGE OF 116 Ft. SPAN AT ST. THOMAS
Thos. Bell, Esq., Engineer

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CAXTON HOUSE WESTMINSTER

KAHN SYSTEM

BRIDGE FOR THE CHESHIRE LINES COMMITTEE AT FARNWORTH, CHESHIRE

HARRY BLUNDELL, Esq., M.Inst.C.E., Engineer

ONE OF FIVE OVERLINE BRIDGES

TRUSSED CONCRETE STEEL COMPANY LTD

CAXTON HOUSE WESTMINSTER

KAHN SYSTEM

BRIDGE OF 19 SPANS OVER BRANCH OF BROAD RIVER AT ASHEVILLE
ARCH SPANS 140 FT.

BRIDGE OVER BRANCH OF BROAD RIVER AT ASHEVILLE SHEWING LENGTH OF 931½ FEET
17 GIRDER SPANS OF 21 FT. TO 59 FT.

TRUSSED CONCRETE STEEL COMPANY LTD
CAXTON HOUSE WESTMINSTER

KAHN SYSTEM

No. 2 DAM AT ONGERS RIVER, CAPE COLONY, FOR THE SMARTT FARMS SYNDICATE, LTD.

J. B. T. Gellatly, Esq., A.M.I.C.E., Engineer

TRUSSED CONCRETE STEEL COMPANY LTD

CAXTON HOUSE WESTMINSTER

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